

#### DRAFT

# **Limited Asbestos Bulk and Air Sampling Survey**

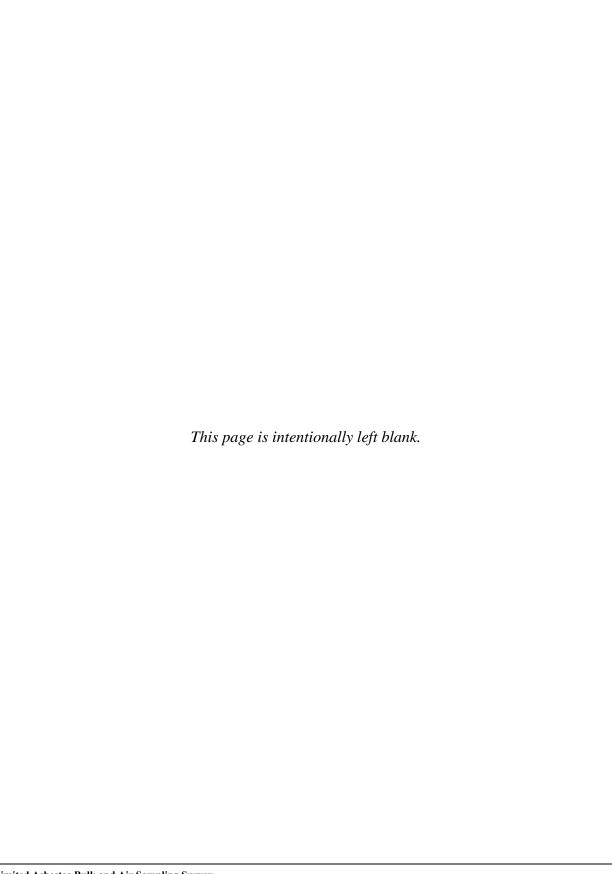
Mountain Home Air Force Base Installation Restoration Program Site Landfill 43 Site 366 Gunfighter Avenue, Mountain Home, Idaho 83648

### Submitted to:

U.S. Army Corps of Engineers – Seattle District 4735 E. Marginal Way South Seattle, Washington 98135-2388

> Prepared on behalf of: FPM Remediations, Inc. 181 Kenwood Avenue Oneida, New York, 13421

Contract Number W912DW-19-D-1025 Task Order Number W912W-19-F2158





## **Table of Contents**

Section 1.0 Project Information	4
Section 2.0 Requested Project Scope	
Section 3.0 Project Description and Site Characteristics	.5
Section 4.0 Inspection and Sampling Procedures	.5
Section 5.0 Findings	.6
Table 5.1 Summary of Materials Identified as ACM	.7
Table 5.2 Summary of Materials Identified as Non-ACM	.8
Table 5.3 Summary of Perimeter Asbestos Air Sampling	.9
Table 5.3 Summary of Perimeter Asbestos Air Sampling	10
Section 6.0 Summary	11
Section 7.0 Non-Conformance/Corrective Action	12
Section 8.0 References	12
Section 9.0 Glossary	13
Figure 1: Landfill 43 Site Location - 2020	16
Figure 2: LF043 Bulk Asbestos Sample Locations and Results - 2020	17
Figure 3: LF043 Air Sampling Locations - 2020	18
Appendix A: Asbestos Bulk Sampling Data Sheets	19
Appendix B: Asbestos Bulk Sampling Data Sheets with Sample Photographs	20
Appendix C: Asbestos Bulk Sampling Location Photographs	21
Appendix D: Asbestos Bulk Sampling Materials, Coordinates and Analysis Results	22
Appendix E: iATL Asbestos Bulk Sample Analysis Report and Chain of Custody	23
Appendix F: Air Sampling Coordinates	24
Appendix G: iATL Air Sample Analysis Reports and Chain of Custody	25
Appendix H: Data Usability Report	26
Appendix I: Figure 3-1, Figure 4-1, and Table 4-1 AECOM 2017 RI/FS	27

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### **Acronyms and Abbreviations**

°F degrees Fahrenheit

ACM Asbestos Containing Material
ADDL Asbestos Debris Disposal Landfill
AECOM AECOM Technical Services, Inc.

AHERA Asbestos Hazard Emergency Response Act
AIHA American Industrial Hygiene Association

ASHARA Asbestos Schools Hazard Abatement Reauthorization Act

CAS Chemical Abstract Summary
CFR Code of Federal Regulations
CIH Certified Industrial Hygienist
COC Contaminant of Concern

CoC Chain of Custody

COR Contracting Officer Representative

CV Calibration verification
DoD Department of Defense
DQOs Data Quality Objectives

EPA United States Environmental Protection Agency

f/cc fibers per cubic centimeter
FPM FPM Remediations, Inc.
GPS Global Positioning System

iATL International Asbestos Testing Laboratories, Inc.

ID Identification number

IDEQ Idaho Department of Environmental Quality
IDQTF Intergovernmental Data Quality Task Force

IRP Installation Restoration Program

ISO International Organization for Standardization

L&R Group

MAP Model Accreditation Program

mph miles per hour

MHAFB Mountain Home Air Force Base

ND Non-detect

NESHAP National Emission Standards for Hazardous Air Pollutants
NIOSH National Institute for Occupational Safety and Health
NVLAP National Voluntary Laboratory Accreditation Program
OSHA Occupational Safety and Health Administration

PCM Phase Contrast Microscopy

PCMe Phase Contrast Microscopy-equivalent QA/QC quality assurance/quality control

RCRA Resource Conservation and Recovery Act
RI/FS Remedial Investigation/Feasibility Study

s/cc structures per cubic centimeter
TEM Transmission Electron Microscopy

UFP-QAPP Uniform Federal Policy-Quality Assurance Project Plan

U.S. United States

USACE U.S. Army Corps of Engineers



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FPM Remediations, Inc. (FPM) retained The L&R Group (L&R) to perform a limited asbestos bulk and air sampling survey for the Mountain Home Air Force Base (MHAFB) Installation Restoration Program (IRP) Site Landfill 43 (LF043) Site (Figure 1), located in Mountain Home, Idaho. The sampling and reporting were performed in accordance with the Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) Asbestos and Air Sampling at LF043 Mountain Home Air Force Base, Idaho (L&R, 2020). The objectives of the UFP-QAPP were to: 1) collect bulk surficial/exposed debris samples of suspect asbestos containing materials (ACM) from areas of the LF043 site where ACM was not previously identified and 2) conduct asbestos air sampling from the perimeter of the landfill fence line. L&R's Inspectors, John Mears and Eric Brinza, collected representative samples of various types of observed suspect bulk ACM on June 3, 2020 and June 4, 2020. L&R collected air samples at LF043 on July 21, 2020, July 28, 2020, and August 4, 2020.

Section 1.0 Project Information		
Submitted to:	U.S. Army Corps of Engineers (USACE) Seattle District	
Prepared by	The L&R Group (L&R) on behalf of FPM Remediations, Inc. (FPM)	
Location:	Mountain Home Air Force Base (MHAFB) Installation Restoration Program (IRP) Site Landfill 43 (LF043) Site, Mountain Home, Idaho	
Given Access By:	Timothy Wood, USACE	

#### Section 2.0 Requested Project Scope

The scope of this project includes a Supplemental Investigation of Asbestos Debris Disposal at Landfill 43 to: 1) determine the nature and extent of ACM through a visual survey, and sampling and analysis of suspect material on the surface and 2) determine the nature and extent of ACM potentially being transported off-site by wind. Specifically, the project scope included:

- A visual survey within the highlighted area specified by Figure 4 in the UFP-QAPP for the presence of exposed suspect ACM.
- Bulk sampling of 50 suspect ACM to identify if asbestos was present within the highlighted area specified by Figure 4 in the UFP-QAPP.
- Submission of bulk samples to a laboratory accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) to be analyzed by polarized light microscopy (PLM) in accordance with the United States Environmental Protection Agency (EPA) 600/R-93/116 (EPA, 1993).
- Collection of 39 air samples along the perimeter of LF043, collected during three separate sampling events.
- Submission of air samples to a laboratory accredited under the NVLAP to be analyzed in accordance with the International Organization for Standardization (ISO) Method 10312 *Ambient Air Determination of asbestos fibers Direct transfer transmission electron microscopy (TEM)* method standards (ISO, 2019). Analytical sensitivity will be to 0.0003 structures per cubic centimeter (s/cc) converted to fibers per cubic centimeter (f/cc) as specified in the UFP-QAPP. The units of concentration employed in the current EPA approach for estimating cancer risks are f/cc as measured by phase contrast microscopy (PCM) or PCM-equivalent (PCMe) concentrations measured using TEM. According to the Method ISO10312:2019, a PCMe fiber is defined as "any particle with parallel or stepped sides, with an aspect ratio of 3:1 or greater, longer than 5 µm, and which has a diameter between 0.2 µm and 3.0 µm. For chrysotile, PCMe fibers will always be bundles". The EPA residential risk level of 1 x10<sup>-4</sup> for cancer risk is less than 0.001 f/cc.
- Submission of a data summary report to include a summary of the sample collection activities as specified in the UFP-QAPP, analytical results with figures and tables, and a comparison of the results to the applicable asbestos levels.



#### Section 3.0 Project Description and Site Characteristics

MHAFB is an active United States Department of Defense (DoD) facility located approximately 10 miles southwest of Mountain Home, Idaho. Landfill 043 (LF043) is located along the east fence line of MHAFB, approximately 0.5 miles south of the northeast corner of the base. Landfill 043 contained exposed and buried ACM and other construction related debris throughout the 70-acre footprint.

MHAFB is located in the southwestern part of the Mountain Home Plateau within the 4,800-square mile western Snake River Plain. The Snake River Plain is a topographically flat, bow-shaped structural depression that extends approximately 130 miles in a northwest to southwest direction and is up to 50 miles wide. The topography of LF043 is generally flat with an irregular surface throughout the basalt boulder area.

The LF043 site sits along the northern boundary of MHAFB (Figure 1). The land use at the site is designated as industrial use. Residential neighborhoods are located south, west, and northwest of LF043. LF043 is fenced with restricted access.

The majority of debris at the site is concrete, asphalt, basalt rocks, and basalt boulders. A Remedial Investigation/Feasibility Study (RI/FS) conducted by AECOM Technical Services, Inc. (AECOM) in 2017 identified other materials dumped on site including empty containers, transite/concrete pipe, automobile parts, metallic solid waste, and other miscellaneous solid waste. A concentrated area of ACM was identified in the east-central landfill area, with scattered suspect ACM throughout the landfill. Asbestos was identified in all of the sampled transite pipes, gaskets, pipe coatings, roofing and vinyl floor tiles (AECOM, 2017).

#### Section 4.0 Inspection and Sampling Procedures

The bulk asbestos sampling conducted at LF043 included the following:

- Collection of 50 suspect ACM at the site on June 3, 2020 and June 4, 2020 from the shaded area specified in Figure 4 of the
  UFP-QAPP and as directed onsite by USACE personnel. Representative samples of various types of observed suspect ACM
  (e.g., transite pipe, roofing, vinyl floor tiles, etc.) were collected. Samples were submitted to International Asbestos Testing
  Laboratories (iATL), a NVLAP accredited laboratory in Mount Laurel Township, New Jersey, for analysis by PLM in accordance
  with EPA 600/R-93/116.
- Bulk samples were identified based on field observations of surficial/exposed debris indicative of potential ACM. The samples were photographed in place (before sample collection), the condition of each sample was noted, and the type of material sampled, and if the material was friable or non-friable. Global Positioning System (GPS) data of each sample location was collected. Refer to Figure 2 for bulk asbestos results and sample locations. Appendices A, B, C, D, and E provide the bulk sampling data sheets, sample photographs, sampling location photographs, sample descriptions, and results, respectively.

The perimeter asbestos air sampling and analysis included the following:

- Weather conditions were evaluated on the day prior to each air sampling event.
- Three sampling events were conducted over a three-week period, beginning July 21, 2020. A total of 13 air samples were collected during each sampling event. Air samples were placed along the perimeter landfill fence line and were collected as such: one air sample in an upgradient wind direction, four samples along the eastern landfill boundary, six air samples along the western landfill boundary, and one air sample on both the north and south landfill boundaries. Refer to Figure 3 for perimeter air sample locations. Appendix F provides the air sample location coordinates.
- For the sampling event conducted July 21,2020 and July 22, 2020: Sampling equipment was placed and began collecting on July 21, 2020. Sampling was completed for the sample set on July 22, 2020. The samples were picked up from the site on July 22, 2020.
- For the sampling event conducted July 28, 2020 and July 29, 2020: Sampling equipment was placed and began collecting on July 28, 2020. All but one sample finished collecting on July 28, 2020 and the remaining sample finished collecting on July 29, 2020. The samples were picked up from the site on July 29, 2020.
- For the sampling event conducted August 4, 2020: Sampling equipment was placed and began collecting on August 4, 2020. Sampling was completed for the sample set on August 4, 2020. The samples were picked up from the site on August 5, 2020.
- Air samples were collected using high volume, programable sampling pumps supplied by SKC, Inc. The pumps were programed to collect samples at 7 liters per minute for a duration of 687 minutes (i.e., 11 hours and 27 minutes). The total sample volume for each of the perimeter samples was 4809 liters. Cassettes with 0.8 μm pore size, known as PCM cassettes, were used for sample collection.



- Quality assurance/quality control (QA/QC) samples included two field blanks per sampling event. The field blanks were collected by removing the top covers from the field blank cassettes and storing them and the cassettes in a clean area, in a closed bag, during sampling. The top covers were replaced once sampling was completed. Field blank samples were submitted to iATL with fabricated sampling times and volumes to remain "blind" samples.
- The air samples were submitted to iATL with a laboratory supplied COC. The samples were submitted with a Client Sample number of 01 to 15 for each sampling event for L&R's use. Please see the key located in Appendix G. The Sampling Date/Time on the Sample Log of the COC for the July 21, 2020/July 22, 2020 sampling event was marked as July 21, 2020. The Sampling Date/Time on the Sample Log of the COC for the July 28, 2020/July 29, 2020 sampling event was marked as July 29, 2020. The Sampling Date/Time on the Sample Log of the COC for the August 4, 2020 sampling event was marked as August 5, 2020, the date of the sample pickup.
- Samples and blanks were submitted to iATL and were analyzed in accordance with the ISO Method 10312 Ambient Air Determination of asbestos fibers Direct transfer transmission electron microscopy method standards. The analytical sensitivity was to 0.0003 structures per cubic centimeter (s/cc).

L&R performed the visual survey, sampling, and testing in accordance with current acceptable industry guidelines, and applicable Federal, State, and Local regulations as outlined in the following:

- 29 Code of Federal Regulations (CFR) 1926, Section 1101, Asbestos.
- Portions of the Asbestos Hazard Emergency Response Act (AHERA), the Asbestos Schools Hazard Abatement Reauthorization Act (ASHARA), and EPA Model Accreditation Program (MAP) as defined by 40 CFR 763; Subpart E, Appendix C.
- 40 CFR 61, EPA National Emission Standards for Hazardous Air Pollutants (NESHAP).
- 40 CFR 261, Resource Conservation and Recovery Act (RCRA).

Laboratory reports are provided in Appendix E and G, respectively, for the bulk sampling and air sampling. A data usability evaluation was conducted by FPM in accordance with the UFP-QAPP and the following EPA guidelines:

- EPA, 2016. PLM Validation Process Guidelines for Asbestos Data Review. October.
- EPA, 2016. TEM Validation Process Guidelines for Asbestos Data Review. October.

The data usability report is provided in Appendix H.

#### Section 5.0 Findings

This section presents the results of the asbestos bulk sampling and perimeter air monitoring. Sections 5.1 and 5.2, summarize the bulk materials identified as ACM and non-ACM, respectively. Bulk sampling locations and results are shown on Figure 2. Perimeter air monitoring results are summarized in Section 5.3, and the sampling locations are shown on Figure 3.



Table 5.1 Summary of Materials Identified as ACM						
L&R Sample Number	iATL#	Date Collected	Material	Location	Condition Observed	Asbestos %
LF043-B-12-NE-1	7020404	6/3/2020	Transite-Like Cement Product	Northeast Quadrant	Non-friable, Damaged	20% Chrysotile
LF043-B-28-NW-2	7020420	6/4/2020	Transite Pipe	Northwest Quadrant	Non-friable, Damaged	20% Chrysotile 10% Amosite 10% Crocidolite
LF043-B-29-NW-2	7020421	6/4/2020	Transite Pipe	Northwest Quadrant	Non-friable, Damaged	20% Chrysotile 10% Amosite 10% Crocidolite
LF043-B-31-NW-2	7020423	6/4/2020	Paper-Like Unknown Fibrous Material	Northwest Quadrant	Friable, Damaged	30% Chrysotile
LF043-B-35-NW-2	7020427	6/4/2020	Black Mastic (on Tile)	Northwest Quadrant	Non-friable, Damaged	4.9% Chrysotile
LF043-B-36-NW-2	7020428	6/4/2020	Transite Pipe	Northwest Quadrant	Non-friable, Damaged	20% Chrysotile 20% Crocidolite
LF043-B-38-NW-2	7020430	6/4/2020	Transite	Northwest Quadrant	Non-friable, Damaged	20% Chrysotile 20% Crocidolite
LF043-B-39-NW-2	7020431	6/4/2020	Transite	Northwest Quadrant	Non-friable, Damaged	20% Chrysotile 20% Crocidolite
LF043-B-41-SE-2	7020433	6/4/2020	Blue Tile	Southeast Quadrant	Non-friable, Damaged	2.4% Chrysotile
LF043-B-42-SE-2	7020434	6/4/2020	Transite Pipe	Southeast Quadrant	Non-friable, Damaged	20% Chrysotile 20% Crocidolite
LF043-B-45-SE-2	7020437	6/4/2020	Transite	Southeast Quadrant	Non-friable, Damaged	20% Chrysotile



	Table 5.	2 Summary of	Materials Identified as Non-ACM	
L&R Sample Number	iATL#	Date Collected	Sample Description	Sample Location
LF043-B-01-NE-1	7020393	6/3/2020	Ceramic-Like	Northeast Quadrant
LF043-B-02-NE-1	7020394	6/3/2020	Black Rubber-Like Material	Northeast Quadrant
LF043-B-03-NE-1	7020395	6/3/2020	Fiberboard	Northeast Quadrant
LF043-B-04-NE-1	7020396	6/3/2020	Insulation	Northeast Quadrant
LF043-B-05-NE-1	7020397	6/3/2020	Black Rubber/Plastic Pipe	Northeast Quadrant
LF043-B-06-NE-1	7020398	6/3/2020	Foam	Northeast Quadrant
LF043-B-07-NE-1	7020399	6/3/2020	Fiberboard	Northeast Quadrant
LF043-B-08-NE-1	7020400	6/3/2020	Vinyl Tile	Northeast Quadrant
LF043-B-09-NE-1	7020401	6/3/2020	Plastic Pipe	Northeast Quadrant
LF043-B-10-NE-1	7020402	6/3/2020	Foam	Northeast Quadrant
LF043-B-11-NE-1	7020403	6/3/2020	Plastic Pipe	Northeast Quadrant
LF043-B-13-NE-1	7020405	6/3/2020	Plaster-Like Material	Northeast Quadrant
LF043-B-14-NE-1	7020406	6/3/2020	Asphalt	Northeast Quadrant
LF043-B-15-NE-1	7020407	6/3/2020	Metal Pipe with Tar-Like Coating	Northeast Quadrant
LF043-B-16-NE-1	7020408	6/3/2020	Black Plastic	Northeast Quadrant
LF043-B-17-NE-1	7020409	6/3/2020	Painted Fiberboard	Northeast Quadrant
LF043-B-18-NE-1	7020410	6/3/2020	Foam with Aluminum Insulation	Northeast Quadrant
LF043-B-19-NE-1	7020411	6/3/2020	Mastic on Brick	Northeast Quadrant
LF043-B-20-NE-1	7020412	6/3/2020	Ceramic Tile	Northeast Quadrant
LF043-B-21-NW-2	7020413	6/4/2020	Plastic	Northwest Quadrant
LF043-B-22-NW-2	7020414	6/4/2020	Roofing Shingle	Northwest Quadrant
LF043-B-23-NW-2	7020415	6/4/2020	Fibrous Material with Mastic	Northwest Quadrant
LF043-B-24-NW-2	7020416	6/4/2020	Fibrous Plastic	Northwest Quadrant
LF043-B-25-NW-2	7020417	6/4/2020	Vinyl Tile-Like Material	Northwest Quadrant
LF043-B-26-NW-2	7020418	6/4/2020	PVC Pipe	Northwest Quadrant
LF043-B-27-NW-2	7020419	6/4/2020	Roofing Shingle	Northwest Quadrant
LF043-B-30-NW-2	7020422	6/4/2020	Foam	Northwest Quadrant
LF043-B-32-NW-2	7020424	6/4/2020	Foam Insulation with Aluminum	Northwest Quadrant
LF043-B-33-NW-2	7020425	6/4/2020	Plastic Tubing	Northwest Quadrant
LF043-B-34-NW-2	7020426	6/4/2020	Plastic	Northwest Quadrant
LF043-B-37-NW-2	7020429	6/4/2020	Brown Plastic Tubing	Northwest Quadrant
LF043-B-40-NW-2	7020432	6/4/2020	Mesh Tape	Northwest Quadrant
LF043-B-43-SE-2	7020435	6/4/2020	Laminate	Southeast Quadrant
LF043-B-44-SE-2	7020436	6/4/2020	Pipe Wrap	Southeast Quadrant
LF043-B-46-SW-2	7020438	6/4/2020	Insulation with Aluminum	Southwest Quadrant
LF043-B-47-SW-2	7020439	6/4/2020	Red Brick-Like Material	Southwest Quadrant
LF043-B-48-SW-2	7020440	6/4/2020	Cement-Like Material	Southwest Quadrant
LF043-B-49-SW-2	7020441	6/4/2020	Blue Tile	Southwest Quadrant
LF043-B-50-SW-2	7020442	6/4/2020	Ceramic-Like Material	Southwest Quadrant



Table 5.3 Summary of Perimeter Asbestos Air Sampling						
Sample Number	L&R ID # on COC	iATL#	Date Collected	Sample Location	Asbestos Type Identified	Asbestos Concentration (f/cc)
LF043-A-01-SE-1	01	7040574	7/21/2020 - 7/22/2020	Southern Landfill Boundary	None Detected	<0.000293
LF043-A-02-SE-1	02	7040575	7/21/2020 - 7/22/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-03-NE-1	03	7040576	7/21/2020 - 7/22/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-04-NE-1	04	7040577	7/21/2020 - 7/22/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-05-NE-1	05	7040578	7/21/2020 - 7/22/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-06-NW-1	06	7040579	7/21/2020 - 7/22/2020	Northern Landfill Boundary	None Detected	<0.000293
LF043-A-07-NW-1	07	7040580	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-08-NW-1	08	7040581	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-09-NW-1	09	7040582	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-10-NW-1	10	7040583	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-11-SW-1	11	7040584	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-12-SW-1	12	7040585	7/21/2020 - 7/22/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-13-N-1	13	7040586	7/21/2020 - 7/22/2020	Upgradient Wind Direction	None Detected	<0.000293
LF043-A-14-B-1	14	7040587	7/21/2020 - 7/22/2020	Field Blank	None Detected	<0.000293
LF043-A-15-B-1	15	7040588	7/21/2020 - 7/22/2020	Field Blank	None Detected	<0.000293
LF043-A-16-SE-2	01	7042315	7/28/2020	Southern Landfill Boundary	None Detected	<0.000293
LF043-A-17-SE-2	02	7042316	7/28/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-18-NE-2	03	7042317	7/28/2020	Eastern Landfill Boundary	1 Structure Chrysotile	<0.000293
LF043-A-19-NE-2	04	7042318	7/28/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-20-NE-2	05	7042319	7/28/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-21-NW-2	06	7042320	7/28/2020	Northern Landfill Boundary	None Detected	<0.000293
LF043-A-22-NW-2	07	7042321	7/28/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-23-NW-2	08	7042322	7/28/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-24-NW-2	09	7042323	7/28/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-25-NW-2	10	7042324	7/28/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-26-SW-2	11	7042325	7/28/2020	Western Landfill Boundary	None Detected	<0.000293



	Tal	ole 5.3 Su	ummary of Po	erimeter Asbestos Air Sar	<b>npling</b> (Continue	d)
LF043-A-27-SW-2	12	7042326	7/28/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-28-N-2	13	7042327	7/28/2020	Upgradient Wind Direction	None Detected	<0.000293
LF043-A-29-B-2	14	7042328	7/28/2020	Field Blank	None Detected	<0.000293
LF043-A-30-B-2	15	7042329	7/28/2020 - 7/29/2020	Field Blank	None Detected	<0.000293
LF043-A-31-SE-3	01	7045849	8/4/2020	Southern Landfill Boundary	None Detected	<0.000293
LF043-A-32-SE-3	02	7045850	8/4/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-33-NE-3	03	7045851	8/4/2020	Eastern Landfill Boundary	None Detected	< 0.000293
LF043-A-34-NE-3	04	7045852	8/4/2020	Eastern Landfill Boundary	None Detected	<0.000293
LF043-A-35-NE-3	05	7045853	8/4/2020	Eastern Landfill Boundary	None Detected	< 0.000293
LF043-A-36-NW-3	06	7045854	8/4/2020	Northern Landfill Boundary	None Detected	<0.000293
LF043-A-37-NW-3	07	7045855	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-38-NW-3	08	7045856	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-39-NW-3	09	7045857	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-40-NW-3	10	7045858	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-41-SW-3	11	7045859	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-42-SW-3	12	7045860	8/4/2020	Western Landfill Boundary	None Detected	<0.000293
LF043-A-43-N-3	13	7045861	8/4/2020	Upgradient Wind Direction	None Detected	<0.000293
LF043-A-44-B-3	14	7045862	8/4/2020	Field Blank	None Detected	<0.000293
LF043-A-45-B-3	15	7045863	8/4/2020	Field Blank	None Detected	<0.000293



#### Section 6.0 Summary

L&R conducted the bulk and air sampling events at LF043 on June 3, 2020, June 4, 2020, July 21, 2020/July 22, 2020, July 28, 2020/July 29, 2020, and August 4, 2020. Weather conditions were evaluated on the day prior to each air sampling event. Each sampling event was preceded by dry weather for several days. Wind conditions for each sampling event were noted from northwest to southeast on each sampling day. In addition, the following historical weather data was provided by wunderground.com:

- June 3, 2020: High 88 degrees Fahrenheit (°F), low 59 °F. Dew point 40.18 °F. Max wind speed 23 miles per hour (mph).
- July 21, 2020: High 99 °F, low 61 °F. Dew point 37.30 °F. Max wind speed 15 mph.
- July 28, 2020: High 94 °F, low 69 °F. Dew point 46.86 °F. Max wind speed 20 mph.
- August 4, 2020: High 94 °F, low 64 °F. Dew point 33.00 °F. Max wind speed 18 mph.

#### Bulk asbestos sampling and analysis summary:

- On June 3, 2020 and June 4, 2020 representative samples of observed suspect ACM were collected from the area specified
  in Figure 4 of the UFP-QAPP. In addition, during the June 3, 2020 sampling event, USACE representatives, Thomas Kendall
  and Timothy Wood, instructed L&R to collect 20 samples from each of the NE and NW quadrants and 5 samples from each
  of the SE and SW quadrants. See Figure 2 for bulk sample locations and results. Suspect materials collected included
  wallboard, flooring, roofing, insulation, and piping materials. The samples were submitted to iATL for analysis by PLM
  according to EPA 600/R-93/116.
- Eleven of the samples collected for analysis were found by laboratory analysis, to be ACM. These results are summarized in Section 5.1. A paper-like material, which appeared to be a type of duct wrap, was found to be ACM. All transite materials collected for analysis, including paneling and piping, were confirmed to be ACM. Of the seven flooring materials collected, one floor tile and one mastic on floor tile were found to be ACM. The materials identified as ACM exceeded the project action limit of 1%. Appendices A, B, C, and E provide the bulk sampling data sheets, sample photographs, sampling location photographs, and laboratory report, respectively.
- Materials found to be non-ACM included wallboard, flooring, roofing, insulation, plastic piping, and brick. These results are summarized in Section 5.2. Appendices A, B, C, and E provide the bulk sampling data sheets, sample photographs, sampling location photographs, and laboratory report, respectively.
- The 2017 RI/FS found concentrated areas of ACM in the east central landfill area, with scattered suspect ACM throughout the landfill. Asbestos was identified in transite pipes, gaskets, pipe coatings, roofing, and vinyl floor tiles. The RI bulk asbestos results are provided in Appendix I of this report (i.e., RI Figure 3-1, Figure 4-1, and Table 4-1).
- L&R collected suspect ACM from six locations not previously sampled that were found to be ACM.
  - Two out of the six materials found to be ACM were materials that were not previously identified in the RI/FS.
  - L&R found five additional ACM located within the northern half of the NW Quadrant and one within the southern half
  - L&R found one additional ACM located within the northern half of the NE quadrant and one within the southern half.
  - L&R found one additional ACM located within the northern half of the SW Quadrant.
  - L&R found two additional ACM located within the northern half of the SE Quadrant.

#### Perimeter asbestos air sampling and analysis summary:

- L&R's initial air sampling event was on June 3, 2020. L&R placed the pumps with sampling cassettes with 0.45 um pore size (TEM cassettes) programmed to collect at 7 liters/minute for 687 minutes. Upon returning to LF043 to collect the samples, L&R found that the pumps had stopped collecting at irregular times and had remaining sampling times. The error codes "Flow off," "Hold," and "Battery low" were displayed on the LED screen on each pump. L&R contacted SKC, the manufacturer of the pumps. On June 5, 2020 one pump was shipped to the SKC research and development center in Pennsylvania for troubleshooting tests. On June 10, 2020 SKC informed L&R that the source of the problem was likely a battery issue due to the age and capacity of the batteries. SKC continued to run troubleshooting tests on the sampling pump using both TEM and PCM cassettes. L&R received a new internal and external battery from SKC. After installation, L&R determined that reaching the target volume of 4800 liters, using a TEM cassette, was not achievable. L&R found that the target volume was achieved when using the new batteries and external batteries with PCM cassettes. TEM cassettes have more resistance due to pore size. On June 17, 2020 FPM sent an email to Amy J. Baker, with the USACE regarding the results of the troubleshooting with the pumps using both TEM and PCM cassettes. On July 13, 2020, after determining that the use of PCM cassettes satisfied the project requirements, L&R received approval from USACE to continue the perimeter air sampling.
  - Three sampling events were conducted over a three-week period, on July 21, 2020/July 22, 2020, July 28, 2020/July 29, 2020, and August 4, 2020. A total of 13, 4809-liter air samples were collected during each sampling event.



- Air samples were collected from the perimeter of the landfill from the following locations: one air sample in an upgradient wind direction, four samples along the eastern landfill boundary, six air samples along the western landfill boundary, and one air sample on both the north and south landfill boundaries. Refer to Figure 3 for air sampling locations.
- QA/QC samples included two field blanks per sampling event.
- Samples were submitted to iATL and were analyzed using ISO Method 10312 with an analytical sensitivity of 0.0003 s/cc. ISO Method 10312 reports asbestos as s/cc or fibers/cc. The units of concentration employed in the current EPA approach for estimating cancer risks are fibers per cubic centimeter (f/cc) as measured by PCM or PCMe concentrations measured using TEM. The EPA residential risk level of 1 x10<sup>-4</sup> for cancer risk is less than 0.001 f/cc. See Appendix G for the air sample analysis reports.
- Sample LF043-A-18-NE-1, collected on July 28, 2020 along the eastern landfill boundary, was found to contain 1 structure of asbestos (identified as Chrysotile) which was a fiber 2 μm in length, and was reported by the laboratory as 0.000293 s/cc. According to the Method ISO 10312:2019, a PCMe fiber is defined as "any particle with parallel or stepped sides, with an aspect ratio of 3:1 or greater, longer than 5 μm, and which has a diameter between 0.2 μm and 3.0 μm. For chrysotile, PCMe fibers will always be bundles." Therefore, the corresponding result would be non-detect (ND) for PCMe fibers, and would be reported as < 0.000293 f/cc.
- None of the perimeter air samples exceeded the project action limit of 0.001 f/cc.

#### Section 7.0 Non-Conformance/Corrective Action

The following are Non-Conformance/Correction Action items:

- A total of 13, 4809-liter air samples were collected during each sampling event. Air samples were submitted to iATL with laboratory supplied COCs. Samples were submitted to iATL with volumes of 4800 L. The actual volume collected for the air samples was 4809 Liters. iATL corrected these volumes for sample analysis.
- Quality assurance/quality control (QA/QC) samples included two field blanks per sampling event. Field blank samples were submitted to iATL with fabricated sampling times and volumes to remain "blind" samples. Field blank samples were reported by iATL as s/cc. S/cc is not applicable to field blanks samples.
- Samples submitted to iATL from the July 21, 2020/July 22, 2020 sampling event were assigned the sample placement date of July 21, 2020 for "Sampling Date/Time" on the COC.
- Samples submitted to iATL from the July 28, 2020/July 29, 2020 and August 4, 2020 sampling events were assigned the sample pickup dates of July 29, 2020 and August 5, 2020, respectively, for "Sampling Date/Time" on the COC.

#### Section 8.0 References

AECOM Technical Services, Inc. (AECOM), 2017. Remedial Investigation / Feasibility Study at Asbestos Debris Disposal Landfill / Site LF043, Mountain Home Air Force Base, Idaho. March.

International Organization for Standardization (ISO), 2019. ISO Method 10312:2019 – *Ambient Air – Determination of asbestos fibers – Direct transfer transmission electron microscopy (TEM)* method standards. October.

The L&R Group (L&R), 2020. Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) Asbestos and Air Sampling at LF043 Mountain Home Air Force Base, Idaho, under the U.S. Army Corps of Engineers (USACE) Seattle District, Contract Number W912DQ-19-D-1025, Delivery Order W912DW-19-F2158, Revision 3, May.

U.S. Environmental Protection Agency (EPA), 1993. Test Method 600, Method for Determination of Asbestos in Bulk Building Materials. June.

EPA, 2016. PLM Validation Process Guidelines for Asbestos Data Review. October.

EPA, 2016. TEM Validation Process Guidelines for Asbestos Data Review. October.



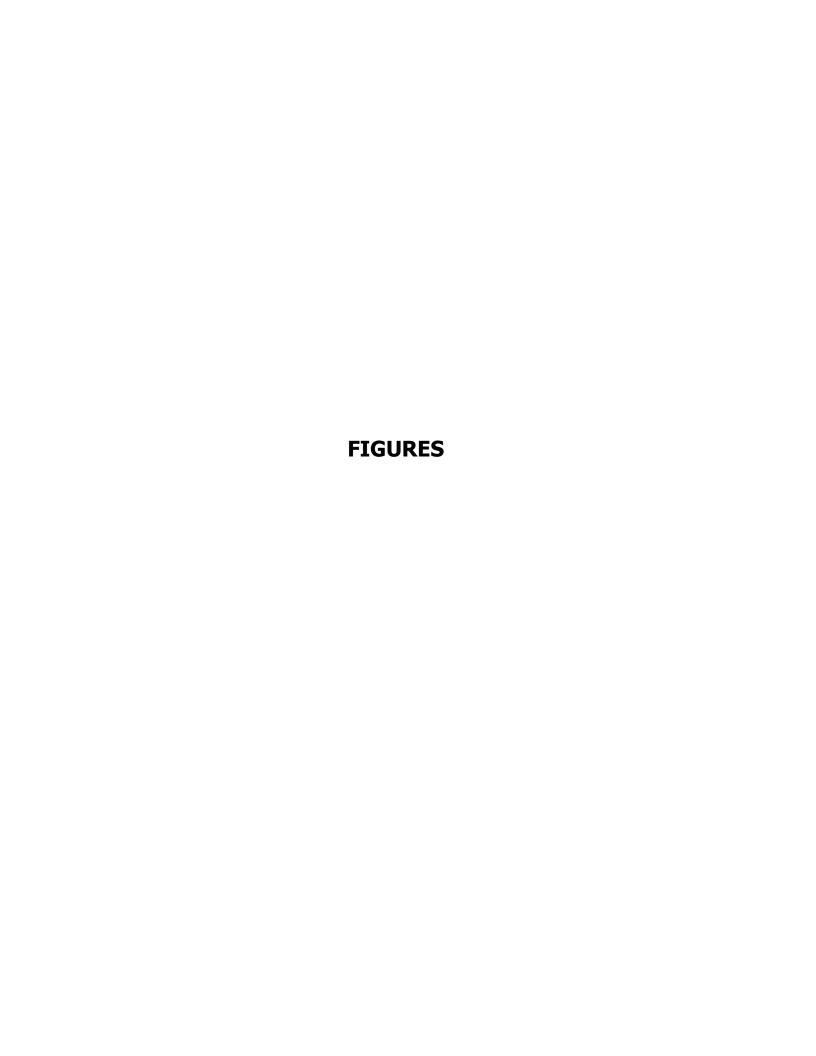
	Section 9.0 Glossary			
ACBM	Asbestos Containing Building Materials (surfacing, TSI or miscellaneous ACM within a building.			
ACM	Asbestos Containing Material containing greater than 1% asbestos.			
AHERA	Asbestos Hazard Emergency Response Act of 1986.			
APR	Air purifying respirator.			
ASHAA	Asbestos School Hazard Abatement Act of 1984.			
Acoustical Material	Material often containing asbestos, perlite, vermiculite, etc. applied to ceilings or walls to dampen sound.			
Action Level	An OSHA standard for asbestos exposure. Action level means an airborne concentration of asbestos above which an employer must institute certain provisions (see 29 CFR 1926.58). The Action Level has been eliminated by OSHA as of October 1994 (see 29CFR 1926.1101).			
Adequately Wetted	Sufficiently mixed or coated with water of an aqueous solution to prevent the release of particulates. If visible emissions are observed coming from asbestos containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.			
Air Plenum	Space above a ceiling used for the circulation of air through a building.			
Air Samples	Samples of airborne fibers taken by drawing air through a filter to trap the airborne fibers. Analyzed by PCM or electron microscopy.			
Amosite	Brown asbestos, brittle fibers, high resistance to heat.			
Asbestos	A term used to define a group of naturally occurring silicate minerals, occurring as parallel bundles of fibers, called "fibrils".			
Asbestos Management Plan	A document to assist in administering the asbestos programs in a facility.			
Asbestosis	A chronic disease during which the lungs become scarred as a result of a biological reaction to the inhalation of asbestos fibers.			
CFR	Code of Federal Regulations.			
Category I Nonfriable ACM	In asbestos containing packing, gasket, resilient floor covering, and asphalt roofing product containing more than 1 ercent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1 olarized Light Microscopy.			
Category II Nonfriable ACM	Any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using he method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.			
Chrysotile	White asbestos, fine silky fibers, flexible with high tensile strength.			
Competent Person	A competent person is one capable of identifying existing asbestos hazards in the workplace and who has the authority to take a corrective action. Duties include establishing the negative-pressure enclosure, controlling entry and exit of all employees, etc. The competent person must be trained in all aspects of asbestos abatement and the contents of the OSHA asbestos standard.			
Condition Factors	Describe the physical condition ACM.			
<b>Control Options</b>	Methods of reducing or eliminating the exposure potential of asbestos-containing materials e.g. removal, enclosure, encapsulation, operations, and maintenance.			
Corrugated Paper	A type of thermal insulation characterized by brown "cardboard box" type corrugated paper wrapped around pipes or applied in sheets to boilers and tanks. Usually contains woven asbestos with paper.			
Corrective Action	An activity undertaken to reduce or eliminate the exposure potential of ACM: enclosure, encapsulation, removal, or operations and maintenance.			
Crawl Space	The area of the building below the ground floor, but above the ground, often only a few feet high.			
Demolition	The wrecking or taking out of any load-supporting structural member of a facility together with any related handling			
Doffing	The process of taking off personal protective equipment.			
Donning	The process of putting on personal protective equipment.			
EPA	Environmental Protection Agency. The agency charged with implementing AHERA.  A repovation appration that was not planned, but results from a sudden upperposted event. This term include			
Emergency Renovation	A renovation operation that was not planned, but results from a sudden, unexpected event. This term includes operation necessitated by nonroutine failures of equipment.			
Encapsulation	Treatment of ACM with a material that surrounds or embeds the asbestos fibers in an adhesive matrix to prevent the release of fibers as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).			
Enclosure	Construction of an airtight, impermeable, permanent barrier around ACM to control the release of fibers into the air.			
Exposure	A quantification of the population at risk and the magnitude and duration of their exposure.			



	Section 9.0 Glossary		
Facility	Any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.		
Facility Component	Any Pipe, duct, boiler, tank, reactor, turbine, or furnace at or in a facility; or any structural member of a facility.		
f/cc	Fibers per cubic centimeter. A measurement to express the level of fibers in the air.		
Fiber Release Episode	Any uncontrolled or unintentional disturbance of ACM resulting in visible emissions.		
Fibrils	A small bundle of individual fibers.		
Fireproofing	Material sprayed onto building structural members to prevent or retard their loss of strength in case of fire. Often contains asbestos.		
Fit-Testing	The act of ensuring a respirator has a proper seal to the wearers face and works properly.		
Friable	Easily reduced to powder by hand pressure when dry.		
Friable Asbestos Material	Any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, can be crumbled pulverized, or reduced to powder by hand pressure.		
Functional Space	A room or area designated by a person accredited to prepare management plans.		
Glove Bag	A device used to remove small sections of asbestos.		
Grinding	Means to reduce to powder or small fragments and includes mechanical chipping or drilling.		
HEPA	High Efficiency Particulate Air.		
Hazard	A circumstance, mechanism, or event which was the potential to create injury.		
Homogeneous Area	An area of asbestos-containing material where the material is consistent in texture, color, and age.		
Inadvertent Contamination	The disturbance of asbestos containing products not caused intentionally by the parties involved in the project.		
In Poor Condition	Means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.		
Inspection	The process of locating ACM, determining its condition, and reporting the results.		
LEA	Local Education Agency, generally a school district.		
Latency	Period before the presence of a disease is manifested by symptoms.		
Liability	Legally bound or obligated.		
Magnesia	A type of thermal insulation, generally white fibrous material pre-formed into shaped pieces or as bricks, often contains asbestos.		
Mechanical Area	An area of building not normally accessed by the public containing air handling, air conditioners, heat exchanges, tanks, pipes, or other mechanical equipment.		
Mechanical System	The heating, ventilation, air conditioning, and plumbing components of a facility.		
Medical Surveillance Program	A program to ensure workers are physically and psychologically able to wear a respirator and perform asbestos activities.		
Miscellaneous Material	Interior building material on structural components, structural members, or fixtures, that does not include thermal or surfacing material.		
Mudded Joint Fittings	Plaster compound packed onto pipe joints and around valves, pumps, elbows, tees for thermal insulation. Often contains asbestos.		
NESHAP	National Emission Standards for Hazardous Air Pollutants.		
NIOSH	National Institute of Occupational Safety and Health. The agency who sets standards for respirators and other protective equipment.		
Negative Air	A process by which air is continually removed from the work area to keep the air pressure in the work area less than the air pressure outside the work area. A registered trademark.		
Nonfriable ACM	Means any material containing more than 1 percent asbestos as determined using the method specified in appendi A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.		
Not Part of Scope	Not part of the planned work for the project.		
0 & M	Operations and Maintenance.  Occupational Safety and Health Administration. The agency responsible for protecting worker health and safety.		
OSHA Outside Air	Occupational Safety and Health Administration. The agency responsible for protecting worker health and safety.  The air outside buildings and structures.		
Outside of Scope	Something not factored in the planned work for the project.		



	Section 9.0 Glossary
Owner/Operator	Means any person who owns, leases, operates, controls, or supervised the facility being demolished. or renovated or
Demolition or Renovation	any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.
PAPR	Powered Air Purifying Respirator.
PCM	Phase Contrast Microscopy. A method used to analyze air samples for the presence of fibers.
PEL	Permissible Exposure Limit, a level of airborne asbestos above which no employee shall be exposed. The PEL is 0.1 f/cc of air as an 8-hour time-weighted average (see 29 CFR 1926.1101).
PLM	Polarized Light Microscopy. A method used to analyze bulk samples for the presence of asbestos.
Packing	Material applied to tanks, boilers, ducts, air handlers for thermal insulation. Often contains asbestos.
Planned Renovation	A renovation operation, or a number of such options, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.
Presumed Asbestos Containing Material (PACM)	All TSI, Surfacing & resilient flooring in buildings construction prior to 1981, must be presumed to be ACM (PACM), and must be treated as ACM.
Project Scope	The planned work for the project.
RACM	Regulated Asbestos Containing Materials  (a) Friable asbestos material,  (b) Category I nonfriable ACM that has become friable,  (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or  (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized,  or reduced to powder by the forces, expected become friable in the course of demolition, renovation or removal operations regulated by this subpart.
Regulated Areas	Areas that exceed or may exceed airborne concentrations beyond permissible exposure limits of 0.1 f/cc.
Reinspection	A periodic reevaluation of the ACM over a regular time period.
Removal	Taking out or stripping of substantially all ACM from a damage area, functional space, or homogeneous area.
Renovation	Altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded.
Repair	Returning damaged ACM to an undamaged condition or to an intact state so as to contain fiber release.
Respiratory Protection Program	A program to provide the information, training, and equipment necessary for proper respiratory protection while working with ACM.
Response Action	A method, including removal, encapsulation, enclosure, repair, and operation and maintenance, that protects human health and the environment from friable ACBM.
Routine Maintenance Area	An area, such as a boiler room or mechanical room, not normally frequented by the public in which maintenance employees or contract workers regularly conduct maintenance activities.
SEM	Scanning Electron Microscopy. A method to analyze air samples for the presence of asbestos.
Salient	A limited area of significantly different material condition within a homogeneous area.
Scope Area	The specific location on the property that the work is to be performed.
Service Personnel	People engaged in repair, maintenance, and/or custodial activities.
Structural System Surfacing Material	The system of beams, walls, piers, and such that supports a building.  Material in a building that is either sprayed-on, troweled-on, or otherwise applied to surfaces such as acoustical plaster on ceilings and fireproofing material on structural members, or other materials used for acoustical, fireproofing, or other purposes. Often contains asbestos.
Symbols	Drawn figures which represent real objects. Symbols are the "short-hand" of architectural and mechanical drawings.
TEM	Transmission Electron Microscopy. A method to analyze air samples or bulk samples for the presence of asbestos.
TSCA	Toxic Substances Control Act.
TWA	Time Weighted Average. An average concentration of material over a set period of time.
Thermal System	Material in a building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior mechanical
Insulation	components to prevent heat loss or gain, or water condensation, or for any other purpose.
Tradesmen "Tyvek"	People engaged in the construction trade, i.e. electricians, plumbers, carpenters, painters, etc.  Brand name of DuPont for a disposable clothing worn during asbestos work.
Visible Emissions	Any emissions containing particulate asbestos material that area visually detectable without the aid of instruments.
Wet Cleaning	A cleaning technique where the material is kept wet and/or wet towels or mops are used to reduce the potential for material becoming airborne.
Wrapped Paper	A type of thermal insulation characterized by layers of Kraft paper wrapped around pipes. There is usually a layer of woven asbestos paper or "tar" paper imbedded with asbestos.



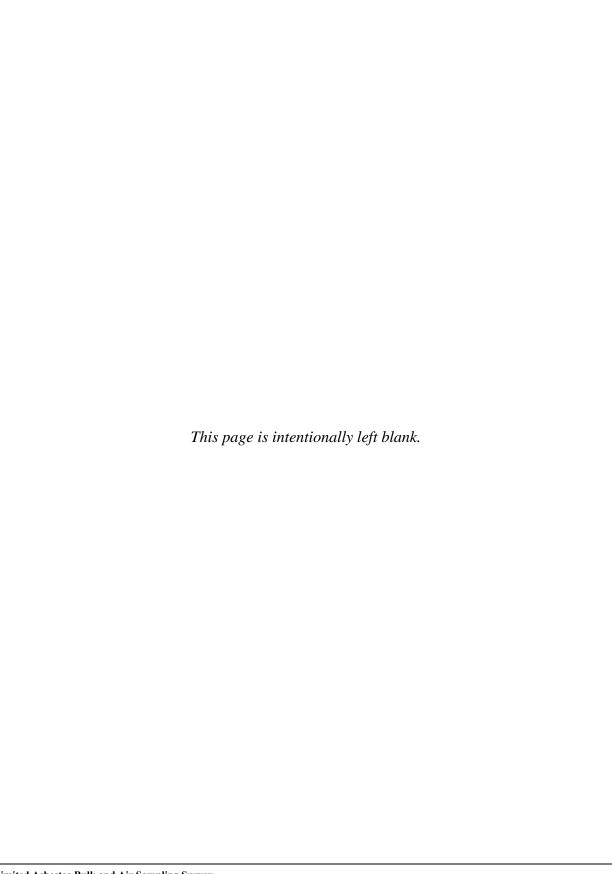




Figure 1: Landfill 43 Site Location - 2020

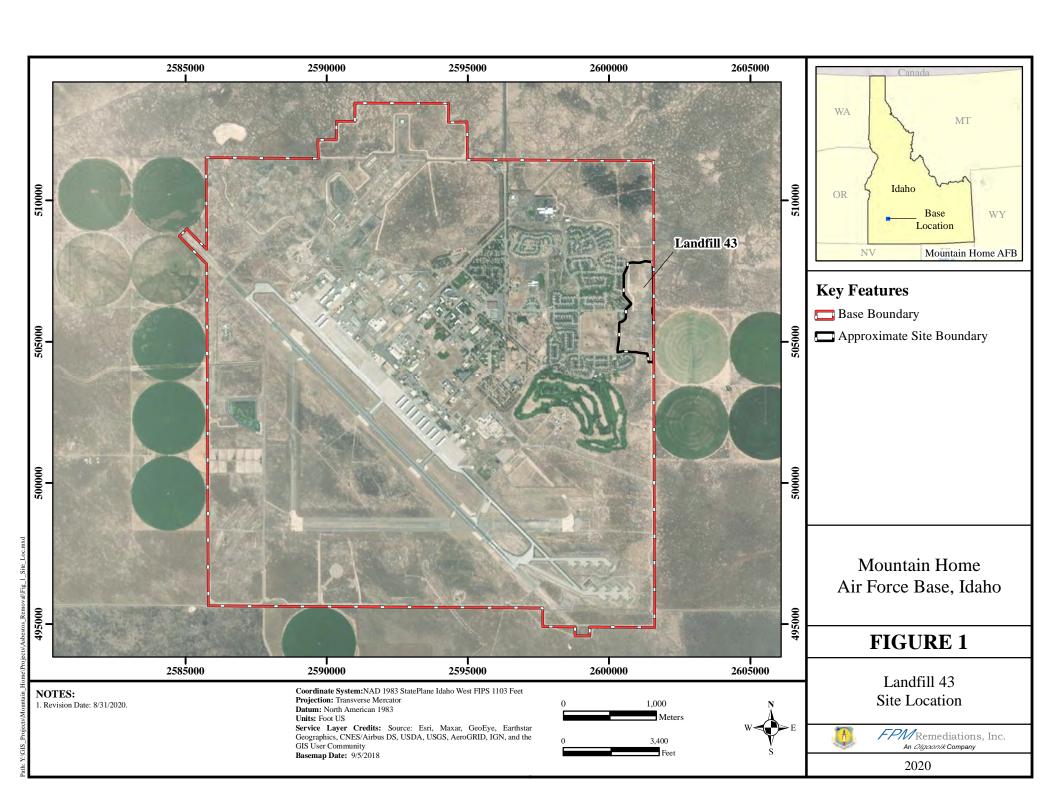




Figure 2: LF043 Bulk Asbestos Sample Locations and Results - 2020

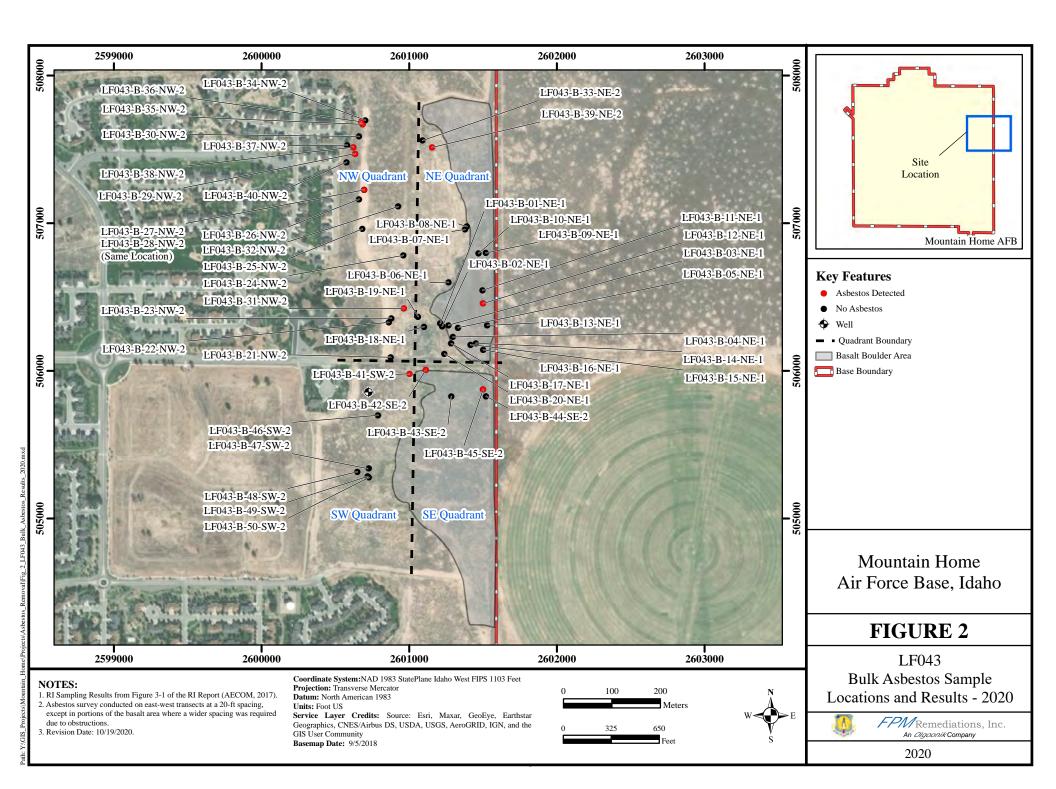
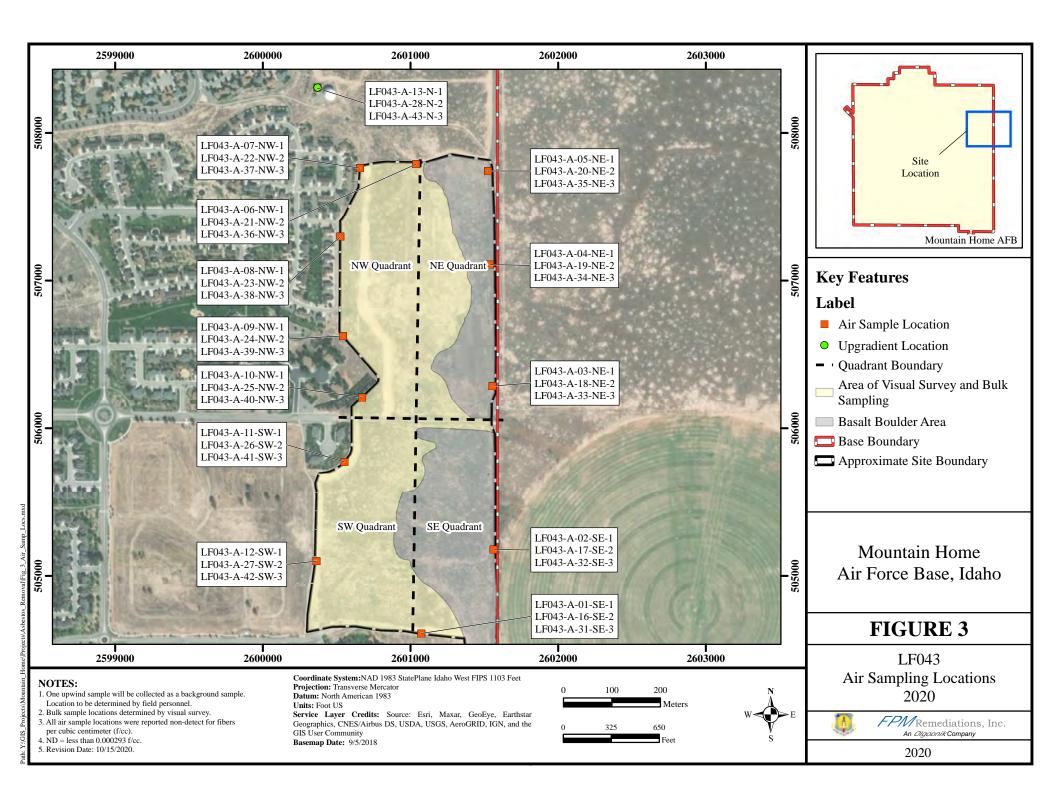
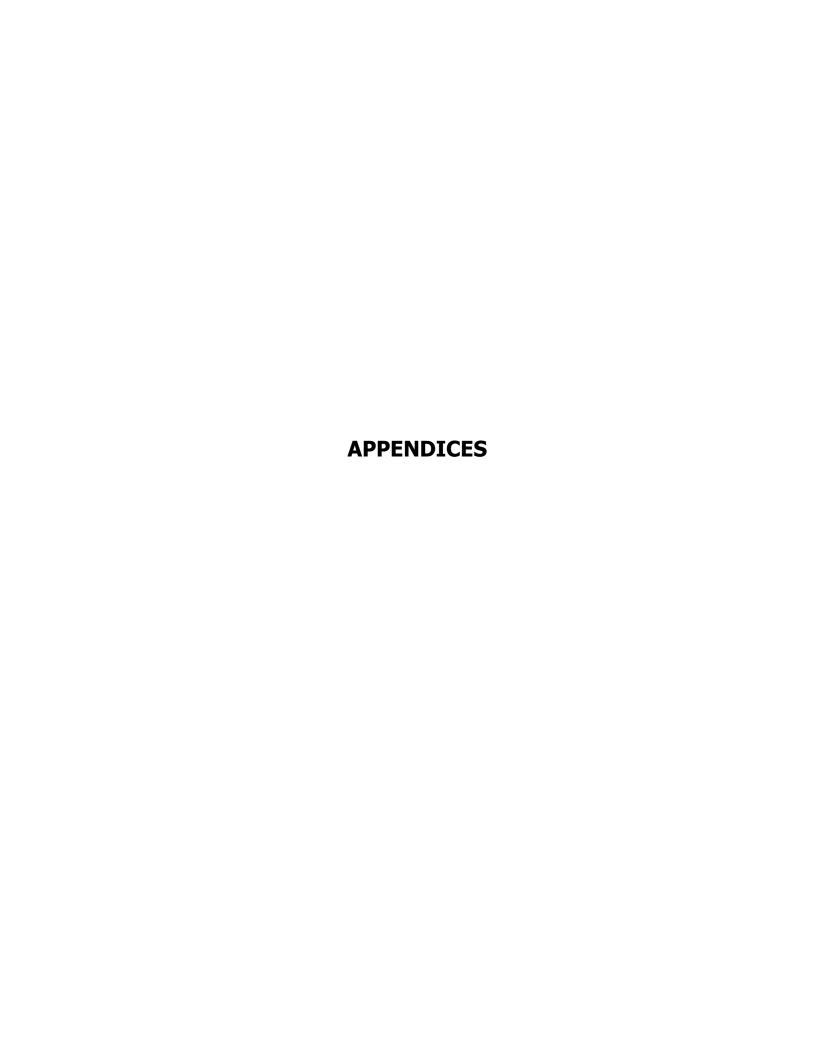
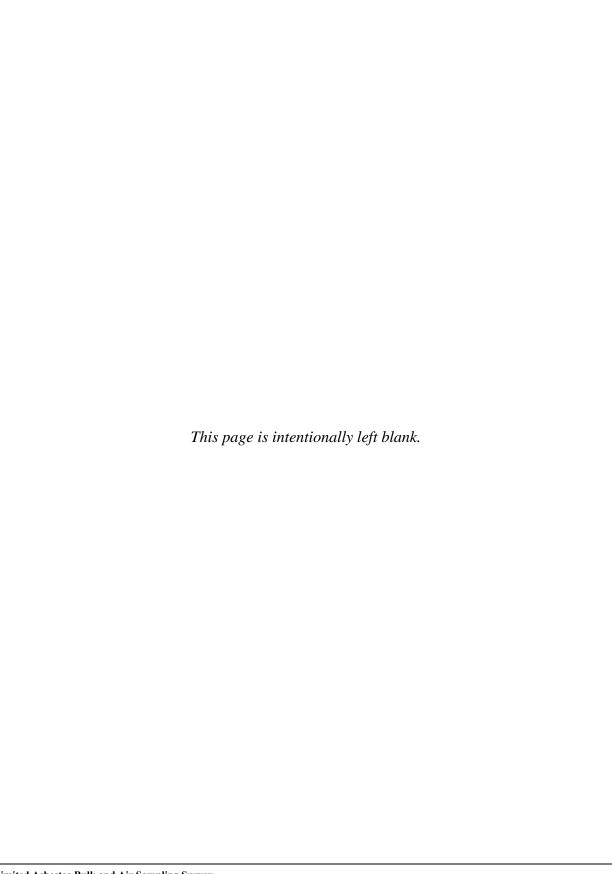




Figure 3: LF043 Air Sampling Locations - 2020

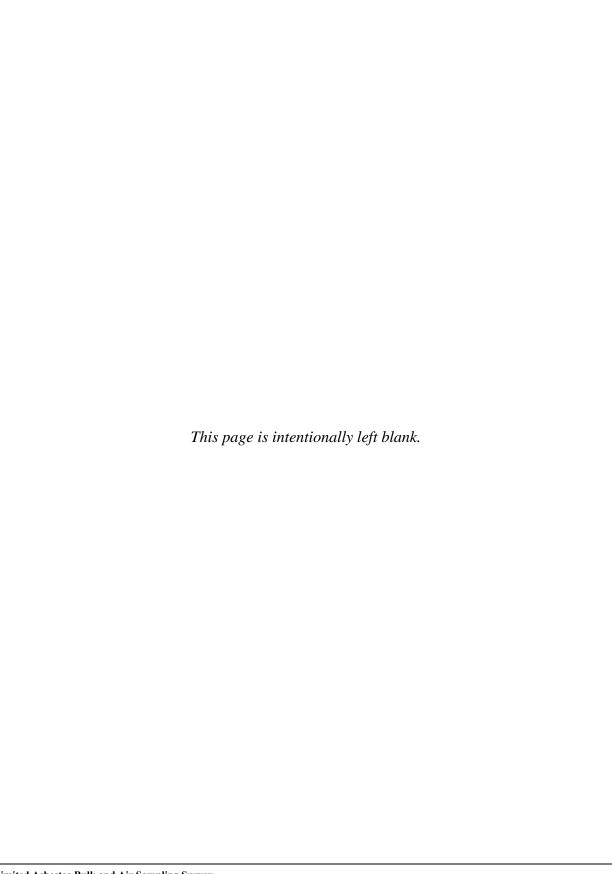








# **Appendix A: Asbestos Bulk Sampling Data Sheets**





# **Asbestos Bulk Sampling Data Sheet**

General Information				
Project: MHAFB				
Sampling Date:       6 3 20         Sample Number:       L + 043 - B - 01 - NE - 1				
Type of Material				
Surfacing:				
TSI:				
Misc: 🗸				
Condition				
Friability				
Friable:				
Nonfriable:				
Overall Rating				
Good:				
Damaged:				
Significant Damage:				
Percent Damage: NA %				
Localized:				
Distributed:				
Type of Damage				
Deterioration:				
Water: V				
Physical:		•		
General Comments				
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				***************************************
Inspector Information				
Inspector Name (Print): John Mean	5	Inspector Signa	ture! / 2m	The Brain Spice
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Asbestos Bulk Sampling Data Sheet

General Information	Aspestos Buik Sampi	ing Data Sheet	
Project: MHAFB			
Sampling Date: 6-3-20			
Sample Number: $LF043 - \beta$	-02-NE-1		
Sample Location & Description	110 11000		
	1-115. 837718		
Black Rubbe-like Ma	Acrial		
Type of Material			
Surfacing:			
TSI:			
Misc:			
Condition			
Friability			
Friable:			
Nonfriable:			
Overall Rating			
Good:			
Damaged:			
Significant Damage:			
Percent Damage: NA %	΄o		
Localized:			
Distributed:			
Type of Damage			
Deterioration:			
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General Information	bestos Buik Sampling Data Sneet
Project: MHAFB	
Sampling Date: 6.3.20	
Sample Number: LF043 - 13-03-	NE- <u>Z</u> 1
Sample Location & Description	
Lat, Lon: 43.056024	-//S. ¥37553
Fiber board	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Condition	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
Percent Damage: NA %	
Localized:	
Distributed:	
Type of Damage	
Deterioration:	
Water:	
Physical:	
General Comments	
Inspector Information Inspector Name (Print): Juhn Me.	Inspector Signature:
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Asbestos Bulk Sampling Data Sheet				
General Information				
Project: MHAFB				
Sampling Date: 6-3-20				
Sample Number: LF043 -B - 04 - NE -1				
Sample Location & Description				
Lat, Lon: 43.055805, -115.837444				
Insulation				
Type of Material				
Surfacing:				
TSI:				
Misc:				
Condition				
Friability				
Friable:				
Nonfriable:				
Overall Rating				
Good:				
Damaged:				
Significant Damage:				
Percent Damage: NA %				
70/				
Localized:				
Distributed:				
Type of Damage				
Deterioration:				
Water:				
Physical:				
General Comments				
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Inspector Information				
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# **Asbestos Bulk Sampling Data Sheet**

	buik Sampini	g pata silect		
General Information				
Project: MHAFB			A STATE OF THE STA	
Sampling Date: 6.3.20				
Sample Number: LF043 - B-05 - NE-	. [			
Sample Location & Description				
Latilon: 43.055977, -1/5.83	1271			
Black rubber/Plastic pipe	77.01			
15thate 1 to 1				
Type of Material				
Surfacing:				
TSI:				
Misc:				
Condition				
Friability				
Friable:				
Nonfriable:				
Normable.				
Overall Rating				
Good:				
Damaged:				
Significant Damage:				
Percent Damage: 1/2 %				
Localized:				
Distributed:				
Tune of Barrer				
Type of Damage Deterioration:				
Water:				
Physical:				
Priysical.				
General Comments				
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Inspector Information				
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## **Asbestos Bulk Sampling Data Sheet**

<b>General Information</b>		
Project: MHAFB		× 10
Sampling Date: 6-3-20		
Sample Number: LF043 - B - 06 - 1	NE-l	
Sample Location & Description		
Lat, Lon: 43, 056819, -115	< v2) (C/	
	2.137)36	
[-vam		
Type of Material		
Surfacing: TSI;		
Misc:		
Misc. V		
Condition		
Friability	9	
Friable:		
Nonfriable:		
Overall Rating		
Good:		
Damaged: /		
Significant Damage:		
Percent Damage: 1/2 %		
Localized:		
Distributed:		
Type of Damage		
Deterioration:		
Water:		
Physical:		
General Comments		
	e a constituent personal and an analysis and a	
Inchestor Information	11	
Inspector Information Inspector Name (Print): John Mean		
Inspector Name (Print): Whn Mlan	Inspector Signature;	
-	/	······································

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General Information	Jumping Data Silvet
Project: MHAFB	
Sampling Date: 6-3-20	
Sample Number: LF043-B-07-NE-1	
Sample Location & Description	
Lat, Lon: 43.057803, -115.83	7141
Fiberboard	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Condition	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
Percent Damage: NA %	
Localized:	
Distributed:	
Type of Damage	
Deterioration:	
Water:	
Physical:	
General Comments	
ange and the contract of the c	
Inspector Information	11
Inspector Name (Print): John Mears	Inspector Signature:
Page _	of



Distributed:

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Sample Number: LF043-B-08-NE-1	
Sample Location & Description  Lat. Lat. 18. USA 18. U	
Type of Material  TSI: Misc:	
Condition  Friability  Friable:  Nonfriable:	
Overall Rating Good: Damaged: Significant Damage:	
Percent Damage:	



<b>General Information</b>	1		3		
Project: N	HAFB				
	6.3.20			A STATE OF THE STA	
Sample Number: LF	-043 - B-09 - NE	<b>5-</b> 1		A SHARE WAS TO CAMPAGE AND THE COLUMN TO THE	
Sample Location & I	Description				
1 n + 1 m : 4/3	3.057365,-115	Y3/ (-12			
Plastic pipe		******	***************************************		
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Type of Material					
Surfacing:					
TSI:					
Misc:					
Condition					
Friability					
Friable:					
Nonfriable:					
Overall Rating					
Good:					
Damaged:					
Significant Damage:					
Percent Damage:	WA %				
Localized:	10/1-1				
Distributed:	<del></del>				
Distributed.	<u> </u>				
Type of Damage					
Deterioration:	V.				
Water:	V.				
Physical:					
General Comments					
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Inspector Information	on T			11	
Inspector Name (Print)	: Whn Meas		Inspector Signature:	///No	
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General Information	<del></del>	ASDESIOS BUIL	C Sampling D	ata Sileet		
	HAFB					
Sampling Date:	6-3.20					
Sample Number:	F043-B-	10 - NE -1				
Sample Location &	Description					
Latilon: 4:	3.05731	61, -1/5.8	36 794			
Eoam		1 612			-/	
		16.77				
Type of Material						
Surfacing:						
TSI:						
Misc:						
Condition						
Friability						
Friable:						
Nonfriable:	1					
Overall Rating						
Good:						
Damaged:	-					
Significant Damage:						
	- [					
Percent Damage:	N/A %	)				
Localized:						
Distributed:						
Type of Damage						
Deterioration:	1					
Water:						
Physical:	1					
General Comments						
						market market
	- Control	and the same of th				
	Man					
Inspector Information	n.				111	
Inspector Name (Print):		Mana	T.,	ookaa Ciaaaa	///	
inspector Name (FIME).	JUNIN /	vilar)	ınst	ector Signature:	162	
						1747
		Page	of	,		



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	Asbestos Bulk Sampling Data Sheet
<b>General Information</b>	
Project: MHAFB	
Sampling Date: 6.3.20	
Sample Number: LF043-T	
2,010	
	os6673, -115. 836691
Type of Material	
Surfacing:	
TSI:	
Misc:	<del>-</del>
MISC.	<del>-</del>
Carallelan	
Condition	
Friability Friable:	
Nonfriable:	_
Nonmable:	
Overall Rating	
Good:	
Damaged: ,	
Significant Damage:	
olgimiesiik samage.	<del>-</del>
Percent Damage: NA	%
Localized:	
Distributed:	
-	
Type of Damage	
Deterioration: 🗸	<del>-</del> 2
Water: 🗸	
Physical:	
	_
<b>General Comments</b>	
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Inspector Information	
Inspector Name (Print):	in Meave Inspector Signature:
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**Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: (5-3-20) Sample Number: LF043-B-12-NE-1 Sample Location & Description at, Lon: 43.056427, -115.83668 Inlinuan - Transite like Type of Material Surfacing: Misc: Condition Friability Friable: \_\_ Nonfriable: Overall Rating Good: Damaged: Significant Damage: Percent Damage: NA Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): John Means Inspector Signature: /



	Aspestos Bulk Sa	impling Data Sneet	
General Information			
Project: MHAF1			
Sampling Date: 6.3.2	9		
Sample Number: <u>LF043</u> -	B-13-NE-1		
1 11	602,-115.83657		
unknown, plast	2-11Ke		
Type of Material			
Surfacing:			
TSI:			
Misc:			
<u>Condition</u>			
Friability			
Friable:			
Nonfriable:	<del>/</del>		
Normable. V			
Overall Rating			
Good:	MANAGEMENT .		
Damaged:			
Significant Damage:			
Percent Damage: NA	%		
Localized:			
Distributed:	_		
Type of Damage			
Deterioration: 🗸			
Water:	<del></del>		
Physical:	<del>/-</del>		
General Comments			
			77/
Inspector Information	-1 11		//_
Inspector Name (Print):	John Mean	Inspector Signature:	m
		_	W. A. (bell start)
	Page	of	



# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: /3.20 Sample Number: LF043-B-14-NE-1 Sample Location & Description ut, Lon: 43.055685, -1/5. 836863 Type of Material Surfacing: Condition Friability Friable: Nonfriable: **Overall Rating** Good: Damaged: Significant Damage: Percent Damage: NA Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments**



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	Bulk Sampling Data Sheet
General Information	
Project: MHAFB	
Sampling Date: G-3-20	
Sample Number: LF043-B-15-NE-1	
Sample Location & Description	0000
ut, Lon: 43.055662, -1/5.	836994
Yetal Pipe W/ Tar like coal	ring
Tune of Material	
Type of Material	
Surfacing: TSI:	
-	
Misc:	
20.40.00	
Condition	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
The state of the s	
Damaged:	
Significant Damage:	
Percent Damage: NA %	
1-1-	
Localized:	
Distributed:	
Type of Damage	
Deterioration:	
Water:	
Physical:	
Seneral Comments	
Inspector Information	
Inspector Name (Print): Juhn Meas	Inspector Signature:
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<b>General Information</b>	Aspestos bulk Sampling Data Sneet
Sampling Date:	HAFB 6-3-20
Sample Number: _ G	F043-B-16-NE-1
Sample Location & D	Description
ilan: 43. 055566	055566, -115.836675
Black Plastiz	
2004	
Type of Material	
Surfacing:	
TSI:	
Misc:	
<b>Condition</b>	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
oigimiodite bamager	<del></del>
Percent Damage:	WA %
Localized:	
Distributed:	
Distributed.	
Time of Damana	
Type of Damage	
Deterioration:	
Water:	
Physical:	<u>V</u>
Company I Community	
<b>General Comments</b>	
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Inspector Information	1/6/20 1/10/10/10
Inspector Name (Print)	: Ship folds Inspector Signature:



Consult Total Consulting	Aspestos Bulk Sam	pling Data Sneet	
General Information			
Project: MHAFB			
Sampling Date: 6.3-20			
Sample Number: <u>LF043-1</u>	3-17-NE-1		
Sample Location & Descript	<u>ion</u>		
Lat, Lon: 43.0556	683, -115.83748	7	
Painted Fiber boom	-d		
			40 - 400 - 4
Type of Material			
Surfacing:			
TSI:	-		
Misc:	-		
	<del>-</del> /		
Condition			
Friability			
Friable:			
Nonfriable:			
	7		
Overall Rating			
Good:			
Damaged:	<del>-</del>		
Significant Damage:	314		
Percent Damage: NA	_ %		
Localized:			
Distributed:			
Type of Damage			
Deterioration:	_		
Water:			
Physical:	<del>-</del>		
General Comments			
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		Consideration in the constraint of the constrain	
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Inspector Information			1777
Inspector Name (Print):	ha Meas	Inspector Signature:	1/2
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# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: 6-3-20 Sample Number: LF043 - B - 18 - NE -1 **Sample Location & Description** at, Lon: 43.055 194, -115.838177 Foan w/ aluminum insulation Type of Material Surfacing: Misc: Condition Friability Friable: Nonfriable: **Overall Rating** Good: Damaged: Significant Damage: Percent Damage: Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): John Man Inspector Signature:



<b>General Information</b>	and the second s	
Project: MHAFB		
Sampling Date:		
Sample Number: LF043-B-19-	NE-I	
Sample Location & Description		
	-115. 838324	
Mastic on brick		
Type of Material		
Surfacing:		
TSI:		
Misc:		
riisc. y		
Condition		
Friability		
Friable:		
Nonfriable:		
Overall Rating		
Good:		
Damaged:		
Significant Damage:		
Percent Damage: NA %		
Localized:		
Distributed:		
Type of Damage		
Deterioration:		
Water:		
Physical:		
General Comments		
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Inspector Information	Mrs	
Inspector Name (Print): Whn /	Mean Inspector Signature:	
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73766
Inspector Signature:
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Sampling Date: しょうしょろ	21-NW-2		and the second s		
	7,-115.83	9019		and the second s	
Plastic					
Type of Material					
Surfacing:					
TSI:					
Misc: V					
					4
Condition					
Friability Friable:					
Nonfriable:					
Nontriable.					
Overall Rating					
Good:					
Damaged:					
Significant Damage:					
- 1					
a)	%				
Localized:					
Distributed:					
Type of Damage Deterioration:					
Water:					
Physical:					
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eneral Comments					
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nspector Information	n Hean		at Carronshall		
nspector Name (Print):	1 pears	Inspe	ctor Signature:	Ilm	



General Information	ios buik sampin	ig Data Silect	
Project: MHAFB			
Sampling Date: 6.4.20			
Sample Number: LF043 - B - 22 - NV	u-2		
Sample Location & Description	116 60000		
Lat, Lon: 43.056074, -	115-83906	6	
Rooting Shinga	-	· · · · · · · · · · · · · · · · · · ·	A TOTAL CONTRACTOR OF THE PARTY
	Control of the Contro		030000000000000000000000000000000000000
Type of Material			
Surfacing:			
TSI:			
Misc:			
Condition			
Friability			
Friable:			
Nonfriable:			
Overall Rating			
Good:			
Damaged: /			
Significant Damage:			
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Percent Damage: UA %			
Localized:			
Distributed:			
Type of Damage			
Deterioration:			
Water:/ Physical:/			
Pilysical.			
General Comments			
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	<del>,</del>		
			71
Inspector Information Inspector Name (Print): The Mea	1	T	
Inspector Name (Print): John Mca		Inspector Signature:	fr m
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# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: 6.4.20 Sample Number: <u>LF043-8-23-NW-2</u> Sample Location & Description Fibrous material w/ mastic Type of Material Surfacing: Misc: **Condition** Friability Friable: Nonfriable: Overall Rating Good: Damaged: Significant Damage: Percent Damage: Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): Juhn Mean Inspector Signature:



Sampling Date: 6-4-20 Sample Number: LF043-B-24-NW	-2	
Sample Location & Description		
Lon: 43. 057 321, -115. 838 701		
Fibrus Plasta		
Type of Material		
Surfacing:		
TSI:		
Misc:		
Condition		
Friability		
Friable:		
Nonfriable:		
Overall Rating		
Good:		
Damaged:		
Significant Damage:		
Percent Damage: //A %		
Localized:		
Distributed:		
Type of Damage		
Deterioration:		
Water:		
Physical:		
General Comments		
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Inspector Information		7/
Inspector Name (Print): The Means	Inspector Signature:	



**General Information** 

680 South Progress Avenue, Suite 2A Meridian, Idaho 83642 208-813-6160 www.TheLandRGroup.com

# Asbestos Bulk Sampling Data Sheet

Project: MHAFB			
Sampling Date: 6-4-20			
Sample Number: LF043-E	5-25-NW-2		
Sample Location & Description			
Lat, Lon: 43,057	81,-115.839742		
Unknown materia	1 - tile like		
			4.
Type of Material			
Surfacing:			
TSI:	_		
Misc:	2		
Condition			
Friability			
Friable:			
Nonfriable:	_		
Overall Rating			
Good:			
Damaged: /	<del></del>		
Significant Damage:	-		
. /	-		
Percent Damage: N	%		
Localized: /			
Distributed:	10		
Type of Damage			
Deterioration:	•		
Water:	*		
Physical:	7		
General Comments			
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Inspector Information			1
Inspector Name (Print):	in Meas	Inconctor Construe	1
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	Bulk Sampling Data Sheet
General Information	
Project: MHAFB	
Sampling Date: 6.4.20	
Sample Number: Lf043 - B - 24-NW-	-2
Sample Location & Description	
Lat. Lon: 43. 058362, -115.	¥39 \$24
PUC Pipe	1000
I VC F IpC	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Condition	
Friability	
Friable:	
Nonfriable:	
Normable.	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
Percent Damage: WA %	
Localized:	
Distributed:	
**************************************	
Type of Damage	
Deterioration:	
Water: V/	
Physical:	
General Comments	
	/7/
nspector Information	
nspector Name (Print): John Mean	Inspector Signature: / / // // // // // // // // // // // /
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	Asbestos Bulk Samp	oling Data Sheet	
<b>General Information</b>	A CONTRACTOR OF THE PARTY OF TH		
Project: MHAF	3		
Sampling Date: 6.4.	_		
	043-B-27-NW-2		
Sample Location & Description Lat. Lan. 43.6	58534, -115, 8396	96	
			· · · · · · · · · · · · · · · · · · ·
Routing Shonge			er (
Type of Material			
Surfacing:			
TSI:	<del></del>		
Misc: 1/	<del>/</del>		
111361	<del></del> -		
Condition			
Condition Friability			
Friable:			
Nonfriable:	_		
Normable			
Overall Rating			
Good:			
Damaged:	7		
Significant Damage:	<del>/-</del>		
Percent Damage: N	%		
Localized:			
Distributed:			
Type of Damage			
Deterioration:	<del></del>		
Water:			
Physical: 🗸	<del></del>		
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<b>General Comments</b>			
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Inspector Information	-1 11	//	
Inspector Name (Print):	John Meas	Inspector Signature:	2,5
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# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFR Sampling Date: 6.4.20 Sample Number: LF043 - B - 28 - NW - 2 **Sample Location & Description** Type of Material Surfacing: Misc: Condition Friability Friable: Nonfriable: **Overall Rating** Good: Damaged: Significant Damage: Percent Damage: Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): John Mean Inspector Signature:



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<b>General Information</b>	Aspestos Bulk Sai	mpling Data Sheet		
Project: MHAFB				
Sampling Date: 6.4.20		-14		
Sample Number: LF043-B-2	9-1141-2			
4000	1 000			1
Sample Location & Description				
Lut, Lon: 43.059	209,-115-839	1923		
Transite pipe				
/ ·				
Type of Material				
Surfacing:				
TSI:				
Misc:				
MISC.				
Condition				
Friability				
Friable:				
Nonfriable:				
Overall Rating				
Good:				
· ·				
Damaged:				
Significant Damage:				
Percent Damage: NA %				
Localized:				
Distributed:				
Distributed.				
Type of Damage				
Deterioration:				
Water:				
Physical:				
Physical.				
General Comments				
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Inspector Information			11	
Inspector Name (Print):	Mean	Inspector Signatur	1/h_	
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General Information	Aspestos Bulk Sampling Data Sheet
- "	HAFB
	7 ( 20
Sample Number. 11	1043-B-30-NW-2
Sample Location & D	escription
Lat, Lon:	43.059529, -115.839825
Foam	
- Carlotte Control of the Control of	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Condition	
Friability	
Friable:	
Nonfriable:	
2,22,27,24,21,24,5	
<b>Overall Rating</b>	
Good:	
Damaged:	
Significant Damage:	
	1.6
Percent Damage:	NA %
Localized:	
Distributed: _	
100 P	
Type of Damage	
Deterioration:	<del></del>
Water: _ Physical:	
Priysical: _	
<b>General Comments</b>	
Inspector Information	1 (1 0)
Inspector Name (Print):	Shn Mear Inspector Signature:
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# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: 64-20 Sample Number: LF043-B-31-NW-2 Sample Location & Description at, Lon: 43 , US6333, -115. 838685 Type of Material Surfacing: TSI: Misc: Condition Friability Friable: Nonfriable: **Overall Rating** Good: Damaged: Significant Damage: Percent Damage: Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): John Mean Inspector Signature:/



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# **Asbestos Bulk Sampling Data Sheet General Information** Project: MHAFB Sampling Date: 19-4-20 Sample Number: LF043 - B - 32 - NW - 2 Sample Location & Description Lat. Lon: 43.058228, -115.838837 Four insulation w/aluminum Type of Material Surfacing: Condition Friability Friable: Nonfriable: **Overall Rating** Good: Damaged: Significant Damage: Percent Damage: N Localized: Distributed: Type of Damage Deterioration: Water: Physical: **General Comments** Inspector Information Inspector Name (Print): The Mean Inspector Signature: /



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Semeral Information Project: MHARE B Sampling Date: 6. 14.20 Sample Location & Description Lut Lon: 43.055454, -1/5.835217  Plastic tabing  Type of Material Surfacing: TSt: Misc:  Condition Priability Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Water: Physical:  General Comments  Inspector Name (Print): MM Man  Inspector Signature:  Inspector Signature:		Asbestos Bulk Sa	mpling Data Sheet	
Sample Number: LOUIS -B - 33 - NNJ - 2  Sample Location & Description LUT LUT - 43 OSSUSU, -1/5 835217  Plastic Lubins  Type of Material  Surfacing: TSI: Misc:   Wisc:   Condition  Friability Friable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage:  Distributed:   Percent Damage: Whysical:   Type of Damage Deterioration:  Water:  Physical:   General Comments  Inspector Information  Inspector Information				
Sample Number: LOUIS -B - 33 - NNJ - 2  Sample Location & Description LUT LUT - 43 OSSUSU, -1/5 835217  Plastic Lubins  Type of Material  Surfacing: TSI: Misc:   Wisc:   Condition  Friability Friable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage:  Distributed:   Percent Damage: Whysical:   Type of Damage Deterioration:  Water:  Physical:   General Comments  Inspector Information  Inspector Information	Project: MHAFB			
Sample Number: LF043 - R - 33 - NW - 2  Sample Location & Description Lwt Lw ' 43. USD454, -//5. 838217  Plastic Labin  Type of Material  Surfacing: TSI: Misc:  Condition  Friability Friable: Nonfriable: Nonfriable: Significant Damage: Significant Damage: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manual Control of the control of	Sampling Date: 6.4.2	O		
Type of Material Surfacing: TSI: Misc:  Condition  Friability Friable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  Type of Material  Surfacing:  Water: Physical:  General Comments	Sample Number: LF043 -	B-33-NW-2		
Type of Material Surfacing: TSI: Misc:  Condition  Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information			**	
Type of Material Surfacing: TSI: Misc:  Condition  Friability Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information	Lut, Lon: 43.05	<u> 19454, -115.83</u>	8217	
Type of Material Surfacing: TSI: Misc:  Condition  Friability Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information	Plastoc tubing			
Surfacing: TSI: Misc:  Misc:  Condition  Friability Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  To Many Allows  Inspector Information  Inspect	Type of Material			
TSI:				
Condition  Friability Friable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage:  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information	the state of	-		
Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage:  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information	Misc:	_		
Friable: Nonfriable: Nonfriable:  Overall Rating Good: Damaged: Significant Damage:  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information	Condition			
Friable: Nonfriable:				
Overall Rating Good: Damaged: Significant Damage:  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manage				
Good: Damaged: Significant Damage: V  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manage of Mana	Nonfriable:			
Damaged: Significant Damage:  Percent Damage: Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manage	Overall Rating			
Significant Damage:	Good:			
Percent Damage:	Damaged: /	5		
Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manage Man	Significant Damage:	_		
Localized: Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information  The Manage Man	Percent Damage: NA	%		
Distributed:  Type of Damage Deterioration: Water: Physical:  General Comments  Inspector Information		÷		
Deterioration: Water: Physical:  General Comments  Inspector Information  The Management of the Manage		<del>-</del> )		
Deterioration: Water: Physical:  General Comments  Inspector Information  The Management of the Manage	Type of Damage			
Water: Physical: Seneral Comments  Inspector Information To Management Seneral Comments		-		
Physical:  General Comments  Inspector Information  The Many of the Physical o		-		*
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Inspector Name (Print): VALA /VICAN Inspector Signature:	Inspector Information	110		///
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Sampling Date: 6.4-20 Sample Number: LF043-B-34-NW-2			
Sample Number: <u>LF043-B-34-NW-2</u>		11.	
Sample Location & Description			
Lat. Lon: 43.059832, -115.43	39667		
Plastic			1
Type of Material			
Surfacing:			
TSI:			
Misc:			
Condition			
Friability			
Friable:			
Nonfriable:			
Normable.			
Overall Rating			
Good:			
Damaged:			
Significant Damage:			
Percent Damage: W/ %			
Localized:			
Distributed:			
Type of Damage			
Deterioration:			
Water:			
Physical:			
General Comments			
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Inspector Name (Print): The Mews		Inspector Signature: /	1/hm
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		Asbestos Bu	lk Sampling D	ata Sheet		
<b>General Informat</b>	ion					
Project:	MHAFB					
Sampling Date:	6.4.20					200
Sample Number:		35-NW-2				
Sample Location	43.0597	55, -115. 8	139734	y 10 110 110 110 110 110 110 110 110 110	**************************************	-
Tile w/m	ustic			·		
Type of Material Surfacir TS	SI:					
Condition						
Friabili	tv					
Friab						
Nonfriab	e:					
Overall Ratio	2.00					
Goo						
Damage	<del></del>					
7						
Significant Damag	e. <u>/</u>					
Percent Damag	e: 11/h %					
Localize	70/					
Distribute	- Andrewson - Andr					
Distribute	u					
Type of Damag	ia					
Deterioratio						
Wate						
Physica						
Thysice						
General Comment	<u>'s</u>					
an water and						
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			ang and a second and a second and a second and	***************************************		
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					4.	
Inspector Informa	ition	.1			///	
Inspector Name (Pri	nt): Whn /	Icars	Ins	pector Signature;	1//200	
			<del>-</del>		//	



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	Asbestos Bull	k Sampling Data	Sheet	
<b>General Information</b>				
Project: MH An	FB			
Sampling Date: 64	-20			
Sample Number: <u>LF043</u>	-B-36-NW			
Sample Location & Descrit Lat, Lon: 43.0 Transik alve	059803,-115.83			
171013112	Total Control of Contr			
Type of Material Surfacing: TSI: Misc:	<u></u>			
Condition				
Friability				
Friable:	1			
Nonfriable: V				
Overall Rating Good:				
Damaged:	1			
Significant Damage:				
Percent Damage: Localized: Distributed:	<u>/</u> %			
T				
Type of Damage  Deterioration:	1			
Water:	<del>/_</del>			
Physical:	<del>/</del>			(*)
General Comments				
			And the second	
Inspector Information Inspector Name (Print):	John Meas	Inspecto	or Signature:	



General Information
Project: MHAFB
Sampling Date: 6.4.20
Sample Number: LF043 -B-37-NW-2
Sample Location & Description Lat. Lon: 43.039367, -115.840127 Plastic Tubing Brown
Type of Material
Surfacing:
TSI:
Misc:
Condition
Friability
Friable:
Nonfriable:
Overall Rating
Good:
Damaged: /
Significant Damage:
1.6
Percent Damage:
Localized:
Distributed:
Type of Damage
Deterioration:
Water:
Physical:
General Comments
Inspector Information
Inspector Name (Print): John Mears Inspector Signature:
Inspector signature.
Page of



General Information	ASDESTOS BUIK Sam	pling Data Sneet	
Project: MH	IAFB		
	4-20		(III) (II) (II) (II) (II) (II) (II) (II
	43-3-38-NW-2	The state of the s	
		The second secon	
Sample Location & Des			
Lat. Lon: 43	0.059328, -115.839	973	
I ransite			
and entirely a time (a)			
Type of Material			
Type of Material			
Surfacing:			
TSI:			
Misc:			
Condition			
Friability			
Friable:			
Nonfriable:			
Overall Rating			
Good:			
Damaged:			
	<del></del>		
Significant Damage:			
Danaani Danaan	NA %		
Percent Damage:	41 48		
Localized:	<del></del>		
Distributed:			
Type of Damage			
Deterioration:			
	-V		
Water:	<del></del>		
Physical:			
General Comments			
Duplocate			
()00)(0000			
		1000	
		ment of the second of the seco	Aller and the second se
Inspector Information	- 11		17
Inspector Name (Print):	John Means	Inchestor Cigartura	Im-
- opecior name (rint).	Jun Carl	Inspector Signature	
-		/_	
	Deen	of.	



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	Asbestos Bulk Sampling Data Sheet
General Information	
Project: MH AFE	
Sampling Date: (3.41-5	
Sample Number: LF043-	B-39-NW-2
Sample Location & Descript	ion 59328, -115.839973
Lot, lon: 43,0.	59328, -115.839977
Transite	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Thos	
Condition	
Friability	
Friable:	
Nonfriable:	
25 m 47	
Overall Rating	<u>-</u>
Good:	<del></del>
Damaged:	
Significant Damage:	
Percent Damage: NA	%
Localized:	
Distributed:	<del>1</del>
Type of Damage	
Deterioration:	<del>-</del>
Water:	
Physical:	
General Comments	
Duplicate	
The state of the s	
Inspector Information	
Inspector Name (Print): John	n Meas Inspector Signature:
(1110)	inspector signature.



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	ulk Sampling Data Sheet
General Information	
Project: MHACB	
Sampling Date: 6.4.20	
Sample Number: LF043-B-40-NW	
Sample Location & Description Lat, Lon: 43.059052, -115.8	40143
Mesh Tope	
Type of Material	
Surfacing:	
TSI:	
Misc:	
Condition	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
11	
Percent Damage: NA %	
Localized:	
Distributed:	
Type of Damage	
Deterioration:	
Water:	
Physical:	
Triysicali.	
General Comments	
Inspector Information	11
Inspector Name (Print): July Means	Inspector Signature:



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Asbestos Bulk Samp	oling Data Sheet
General Information	
Project: MHAFB	
Sampling Date: 6-4-20	
Sample Number: LF043-B-41-88M SE-2	
Sample Location & Description Lat, Lon: 43.05512, -115.838542 Blue file	
Type of Material	
Surfacing:	
TSI:	
Misc:	
MISC. V	
Condition	
Friability	
Friable:	
Nonfriable:	
Overall Rating	
Good:	
Damaged:	
Significant Damage:	
16	
Percent Damage: WA %	
Localized:	
Distributed:	
Type of Damage	
Deterioration:	
Water:/	
Physical:V	
General Comments	
Inspector Information	
Inspector Name (Print): John Mears	Inspector Signature:
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General Information  Project: ΜΗΔCB		pinig bata snect					
Project: MHAFB Sampling Date: 6-4-20							
Sample Number: <u>LF043-B-42-SE-2</u>							
Sample Location & Description							
Lot, Lon: 43.055/91,-1	15.838128						
Transite pipe							
Type of Material							
Surfacing:							
TSI:							
Misc:							
Condition							
Friability							
Friable:							
Nonfriable:							
Overall Rating							
Good:							
Damaged:							
Significant Damage:							
Percent Damage: NA %							
Localized:							
Distributed:							
Type of Damage							
Deterioration:							
Water:							
Physical:							
General Comments							
				- 20 - 10 - 10 - 10 - 10 - 10 - 10 - 10			
			***				
Inspector Information			111				
Inspector Name (Print): John Mea.	1	Inspector Signatu	re: ////				
			- Joon				
			/	~			
	Page of						



Ashestos Bul	k Sampling Data Sheet		
General Information	k Samping Data Sheet		
Project: MHAFB			
Sampling Date: 6.4-20			
Sample Number: LF043-8-43-8E-2			
13 00 0			
Sample Location & Description		v.	
Lat, Lon: 43.0847, -115.5	737481		
Laminate			
Type of Material			
Surfacing:			
TSI:			
Misc:			
Condition			
Friability			
Friable:			
Nonfriable:			
Overall Rating			
Good:			
Damaged:			
Significant Damage:			
. (			
Percent Damage: NA %		*	
Localized:			
Distributed:			
Type of Damage			
Deterioration:			
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Physical:			
General Comments			
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Inspector Information		///	
Inspector Name (Print): Soln Mean	Inspector Signature	11/1/2-	
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## **Asbestos Bulk Sampling Data Sheet**

General Information
Project: MHAFB
Sampling Date: 6-4-20
Sample Number: LF043-8-44-SE-2
Sample Location & Description
Lot, Lon: 43,054702, -115.8366
Unknown pipe wrap
Type of Material
Surfacing:
TSI:
Misc:
Condition
Friability
Friable:
Nonfriable:
Overall Rating
Good:
Damaged: 2
Significant Damage:
Percent Damage: W/ %
Localized:
Distributed:
Type of Damage
Deterioration:
Water: 1/
Physical:
General Comments
Inspector Information
Inspector Information Inspector Name (Print):   Why Mean Inspector Signature:
Inspector Name (Print): SONN MCAN Inspector Signature:
Page of



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	Asbestos Bulk Sampling Data Sheet					
General Information						
Project: MHAFB						
Sampling Date: 6.4.20						
Sample Number: LF043-B-45-SE-2						
Sample Location & Description Lat Lon! 43.0548						
Transite + price		-				
Type of Material						
Surfacing:						
TSI:						
Misc:						
Condition						
Friability						
Friable:						
Nonfriable:						
Overall Rating						
Good:						
Damaged:						
Significant Damage:						
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Percent Damage: /// %						
Localized:						
Distributed:						
Type of Damage						
Deterioration:						
Water:/_						
Physical:						
General Comments						
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Inspector Information						
Inspector Name (Print):	Inspector Signature:					

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Asbestos Bulk	Sampling Data Sheet				
General Information					
Project: MHAFB					
Sampling Date: (~4.20)					
Sample Number: LF043 - B - 846 - SW - 2					
Sample Location & Description					
Cat/Lon: 43.054346, -115	-839341				
Insulation Waluminum'					
Type of Material					
Surfacing:					
TSI:					
Misc:					
Misc. V					
Condition					
Friability					
Friable:					
Nonfriable:					
Notifilable.					
Overall Rating					
Good:					
Damaged: /					
Significant Damage:					
Jigiinidan Dunidge.					
Percent Damage: 1/A %					
Localized:					
Distributed:					
Type of Damage					
Deterioration:					
Water:					
Physical:					
General Comments					
Inspector Information					
Inspector Name (Print): John Means	Inspector Signature:				

Page \_\_\_\_\_ of \_\_



	Asbestos Bulk Sa	mpling Data Sheet		
<b>General Information</b>				
Project: SMHAF	В			
	20			
Sample Number: LF043 - F				
_ 4045 .	) 1. 010 A	* 5000-1400	- Aug	
Sample Location & Description	on			
Latilan: 43.0	53364, -115.	x395x2		
Red brick like ma	terial	02,00%	The state of the s	
				_
Type of Material				
Surfacing:				
TSI:	<u>-</u>			
Misc:				
	ā.			
Condition				
Friability				
Friable:	^			
Nonfriable:	-			
Norimable:	-			
Overall Rating				
Good:	-			
· · · · · · · · · · · · · · · · · · ·	5			
Damaged:	-			
Significant Damage:				
11/0				
Percent Damage: //A	%			
Localized:				
Distributed:				
Type of Damage				
Deterioration:				
Water:				
Physical:	4			
General Comments				
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Inspector Information	3. 0.0			
Inspector Information	in Mean			
Inspector Name (Print):	nrun	Inspector Signatur	e://///	-
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Asbestos Bulk	Sampling Data Sheet						
General Information							
Project: MHAFB							
Sampling Date: 6-4-20							
Sample Number: LF043 - 8 - 48 - 5W - 2  Sample Location & Description							
						Lat, Lon: 43.053295, -1/5	- 839863
						Coment like material	
Type of Material							
Surfacing:							
TSI:							
Misc:							
Condition							
Friability							
Friable:							
Nonfriable:							
Overall Rating							
Good:							
Damaged: /							
Significant Damage:							
1.6							
Percent Damage: 10/1 %							
Localized:/							
Distributed:							
Type of Damage							
Deterioration:							
Water:							
Physical:							
Company Company							
General Comments							
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Thomaskau Tufauna I	-1						
Inspector Information Inspector Name (Print): John Meas	1/2						
Inspector Name (Print): John Meas	Inspector Signature:						
- Company of the Comp							

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	Asbestos	Bulk Sampli	ng Data Sheet		
<b>General Information</b>					
Project: Ma	HAFB				
Sampling Date: 🗡	26.4.20				
Sample Number: 15043-8-49-SW-2					
Sample Location & Description					
	13.05321,-1	15 8395	98		
Blue tile				***************************************	
			100 mm mm		
Type of Material					
Surfacing:					
TSI:					
Misc:					
Condition					
Friability					
Friable:					
Nonfriable:					
Overall Rating					
Good:					
Damaged:					
Significant Damage:	V				
	1 1				
Percent Damage:	NA %				
Localized:					
Distributed:					
_					
Type of Damage					
Deterioration:	VI				
Water:	VI				
Physical:					
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General Comments					
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			737.7		
				111	
Inspector Information	71 11.			///	
Inspector Name (Print):	John Meas		Inspector Signature:	10m	
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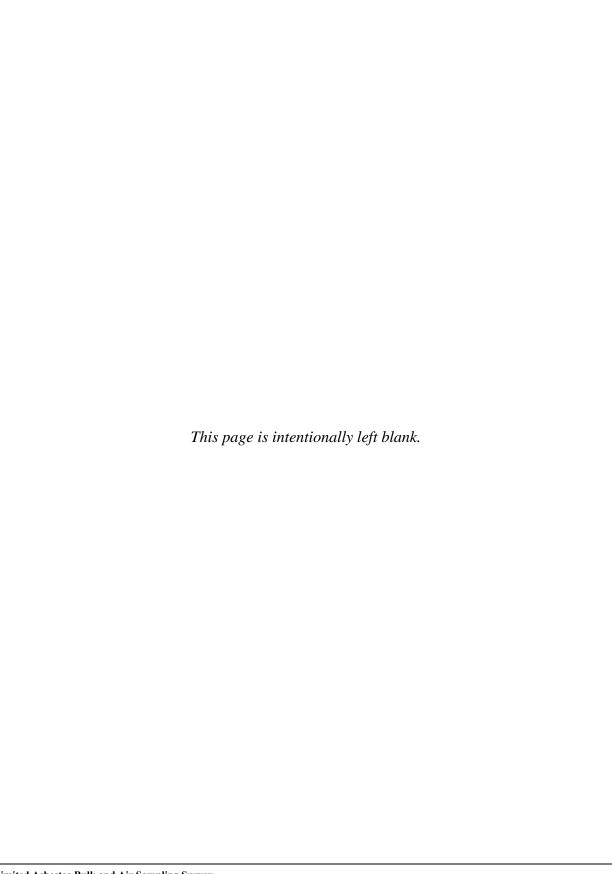
Consul Yufi		Asbestos Bulk	Sampling Date	a Sheet		
General Informat Project:						
the state of the s	MHAFB			and the same of th	and the second second	
Sampling Date: 6-4-20 Sample Number: 15043-8-50-SW					***	
2011ble (10111pet) 1013-0 - 20-2M						
Sample Location & Description						
Lat, Lon: 43.05319,-115-839571						
Unknown C	eramiz l	like mater.	ial	545		
Type of Material					***************************************	
Surfacin	g:					
TS						
Mis	ic:/_					
Condition						
Friabili	ty					
Friabl	e:/					
Nonfriab	e:					
Overall Ratin	g					
Good	d:					
Damage						
Significant Damage	e:					
Downson's Downson	1 / h %					
Percent Damage						
Localized Distributed						
Distributed	4.					
Type of Damag	e ,					
Deterioration						
Water						
Physica	l:					
General Comments	<u>5</u>					
	Juneau e e i					-
			The state of the s		***************************************	
Inchester Tele-	41			- Anglanda	7.	
Inspector Informa Inspector Name (Prir	tion	Mean	7	/		
mapector Name (Pfir	. Man	pueus.	Inspec	tor Signature:	1/2	
	-			/_		

Page \_\_\_\_\_ of \_



Appendix B: Asbestos Bulk Sampling Data Sheets with Sample Photographs

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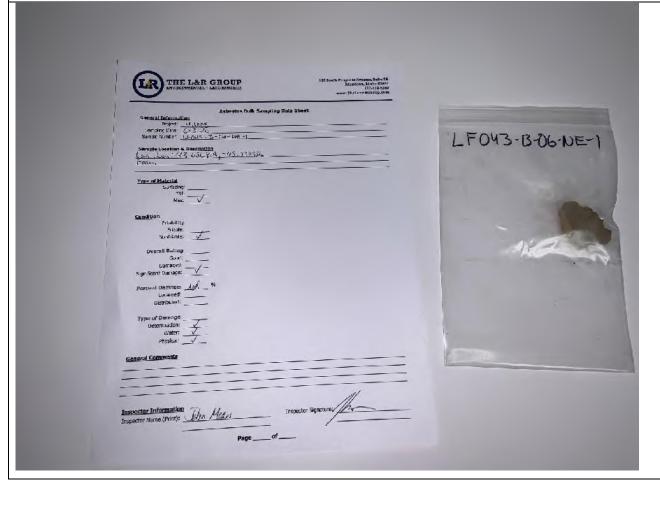
Ge :	Obtail Information Asbertos Bulk Sa Project Aspects Aspects Aspects Obtained Company ( $\frac{1}{2}$	ampling Data Sheet			
S.	mple Combon Legals B. C(1-12-4)  nate Location & Description  1 1 Legal C(3-03-05)  2012-11-14	Shaw	150	117-18-01-NE-1	
-				143-13-01-NE-1	+ /\
Typ	sufficients Sufficing: 15.5 (Rec		7	rile	
Cons	Frieblirty			Pod = 53	
	Prizo e:				4
	Overall Rating Good: Dameged:		1		
	incant Comage:		1		73.5
Pel	Distributed:		1 3		333
Typ	e of barnage Ortenwation:				
	Variet:			The state of the s	
General	Comments			Tours	40 A
				-	
	- Information				
Inspector	Name (Print): Juha Mun	Inspector Signatures			



Asbestos B Foresta Additionation Foresta Additionation Stronger Land 3-2-3 Strong Parties - 15-33 - 0-02 - 10-2	elk Sampling Dato Sheef	
Same for the 1/203 - 0-03 - 01-2  Same to a tour Experimen	4 r375/3	LF043-B-03-NE-1
Type of Material Saliding: TSI. Nite:		
Condition Problem Fisher		
Nontrable:   Overall Reting Good:		
Dameget: Significant Daminge:   Percent Daminge:  Localbed:		
Type of Damings  Deteroration:		
Mc, Hz		. (600)
Inspector Information Inspector Name (Print): John Mess	Inspector Signatures	



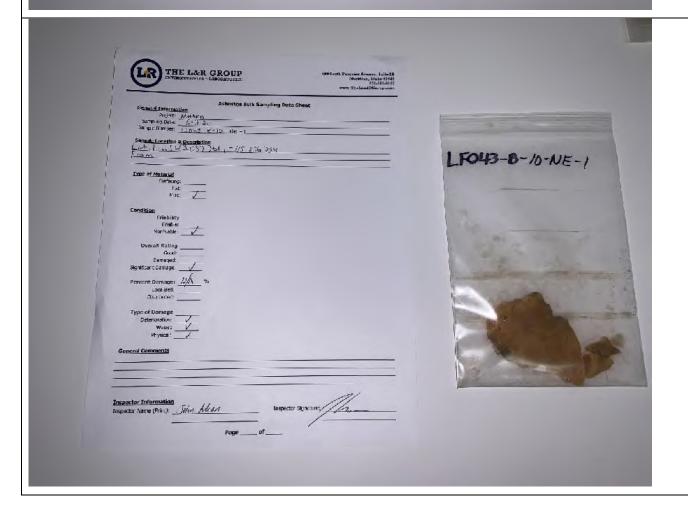
LR THE LS	ER CROUP  TO SHE CHARGES  Asherites Balk Sampling Onto Short	g Apazze , Nell 7 TA 361 Thanks SPAL 154 Thanks SPAL 154 TA 154 TA 154 TA 155 .	
Senarel Information Project No. 4 Project No. 4 Senarely farms (2013) Sharele to mitter (2013)			
Sample Location is Dose  Lat Late 1/2/05  Education to blood City	<del>©0100</del> 5973,-#5.Υ <u>ΣΕΣΙ</u> 01-α (2-90-	== LF043	5-B-05-DE-1
<u>Fyres of H. Asrial</u> Sarfades : 154 	7_		
Constition Filebility Filebility	<del>-</del>		
Normables  Gwarell Reting G.a.c.  Denogad:	_		
Synficial Penage	Z 6_%		,
Detritude: Type of Damage Deterioration:	- -		
Water: Physical:	-		
General Comments			
Inspector Information Inspector Name (Print):	Id. Maari Uspecon Schotues	7	



	THE LER GROUP Division and it is an individual to the control of t	
	Sensol Information When Militaria Sampling trees 6.5520	
	Surple Manda: Lingua - Basera	LF043-B-07-NE-1
	Puncof Mercial Surbata: TS:	1
	Candition  Pricinity	
1	Frish x:  Alternatis  Overall Rating	
1	Good:  Sign (bank Jamage):  Sign (bank Jamage):	
	Percent Drawy:: 46 Locates:	
	Otoributed:  Type of Damage  Decemposition:	
	Water V Prestal:	
	General Convinents	
	Inspector Information Impector Name (Print): John Means Inspector Signature:	



VIANA 6-1-20 	Stimular Fore: MITAFIS	
	Sample Markett 12.553 - 8-69-18E-1	Stimuling Enter Sample Number:
657365, 115-13662	Sample Location & Description  A + 1 km - 1/8 (5) 3 (5) 1/5 - 1/4 (6) 2  Text a grove	Sannie Location 8
LFO43-B-09-NE-	Salising	Proc of Material Safety
<u> </u>	Mac: V	Condition
<b>→</b>	Friable:	Friable:
	Overall Rating Good:	Gcod:
<u>√</u>	mificant Camage:	Significant Camage:
	Localized: Distributed:	Localized:
<del>_</del>	Deterioracion:	
<del>*</del>	Water V Physicat V	
	d Comments	General Comments
<del>*</del> *	Leceltred Described: Uptholated: Uptholated: Wido: Pibsical:	Significant Damages Decelled: Detrobled: Type of Damages Deteroratedon: Walter Physical



Projects M. 1946			
Sample American Lands D. U. 445-1		-	(1-11E -1
Familie Location & Descripting  Lock 17 com 1 C/3 C/3 C/3 -7/5 1/3 65c  Process proper		LF043	3-B-11-NE-1
Type of Material			
Surfacing:			
Msc:/			
Friability Friable:			-
Marinable:/		1	
Good:			
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Type of Detroips  Deteriorator:			
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General Commants		= 1 1	
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Inspector Information Inspector Name (Print): John Milary Inspector Name (Print):	ector Signature:		

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Tron of Haterial Suriodry TS: Mss	
Constitution Prisolity Final control Aut (able:	
Overall Rathing Socit Durwood:  Significant Damage:  Percent Damage:  ### 95	
Line of Dampide  Line parties A  Line parties	
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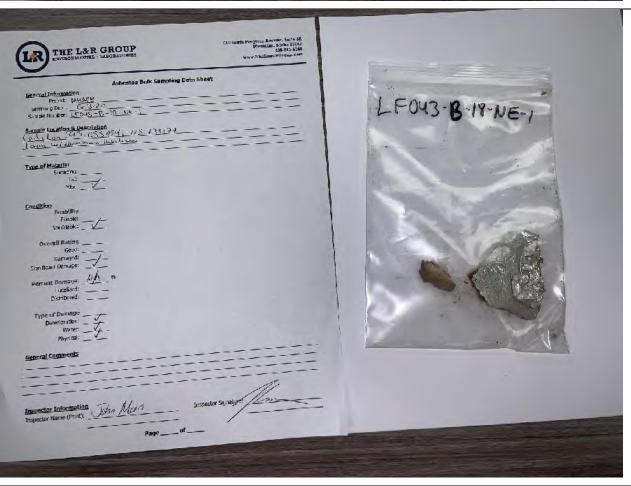
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	core.Thehand.Comp.ees.	
Adventor Built Sampling Data Sheet  General Information  10000		
Sample Cates <u>A. C. Cate</u> Sample Nandon (1999) - (5-100-1)	-	
Semple Location A Description Lat. 15-1 1/3 05(-04, 1/5, 874-575) United to 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4		
Type of Mulcrial		LF043-B-13-NE-1
Juradne		
Condition Fembrilly		
No windship		
overoll Rading fixed: Come and:		
Significant Contrage:		4
Purcent Darmyse: Alexandre Localized:  Ecotalized:  Dartificated:		
Type of Damaes		
Webst /		
General Comments		
		· ·
	1/2	
Inspector Information  Inspector Name (Print):  John Means Inspector St	oren rei	-
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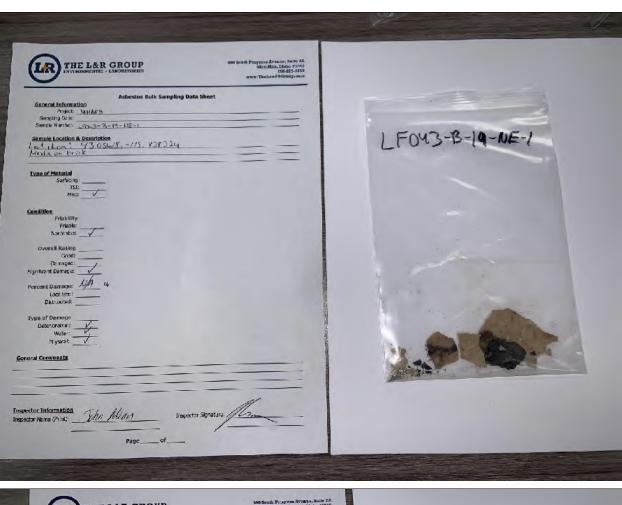


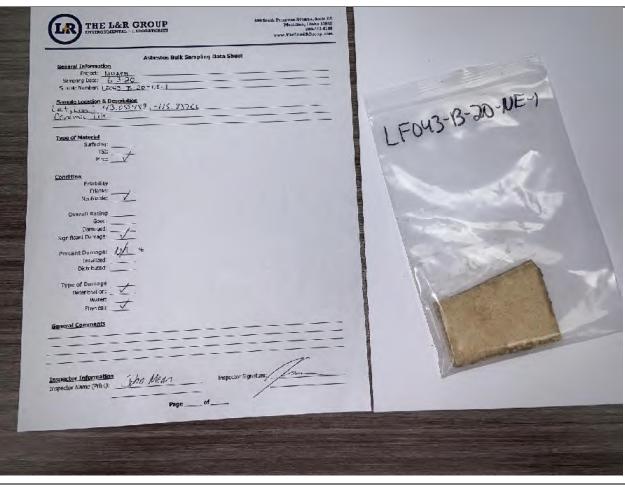
	wane. Venland II Goorg. cors	
Asbestos Bulk Sampling Date General Information	a Sheat	
Project Militarya Sampling Date: C. 3: 2.2		
Simple Number: CFG43-8 (nv.: )		
Sample Location & Description		
Retail Pipe tell for the garding		
Type of Material Surfacing:		1 0 1F 1 - 1
ISI: /		LF043-B-15-NE-1
MKG/_		
Condition		
Friability Friable:		
Nonfriables		
Overall Reting		No. of the last of
Good:		THE REAL PROPERTY.
Damaged:		
Significant Durisire		
Percent Dameyer M/ %		
Localized:		
Type of Damage		
Derendration: V		
Physical:		1
General Comments		
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Sameral Information	astos Bulk Sampling Data Sheel	Popping Manager, Sciller R. Mari Man, Edward State Transfer Science (Control of the Control of t	
Sempling Som (4.7.20) Some Number: 16.7.20			שים מיון ויי
Lodge C/3 Constant Proceeding	S XX 675		143-16-16-11E-1
Types of Material Suits Sing TS0:			
Condition		1	
Nonfretier			
Overall Rating  Good:  Damaged:  Spylificant Damaget  V			*
Percent Damages 4/4 %			
Type of Domage  Deterioration:			
Water: Physicit:			
General Comments			
	Inspector Signature	11	

THE L&R GROUP THYLHORIDENTER - MADORATORITA  Abbestos Bulk Sampling Data Shee	\$30 Spath Sregger Stream, Subb and Sheekine, 168-528-72 108-521-5-169 vorse. The Land at Group, some		
General Information  Project: MALACS  Sampling Dext: 4-3-2-0			
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Sample Location & Description Lack Line 45-055683, -45. X3 4 1187 Paradad Filtra Decord		JE DUZ B-	17-NE-
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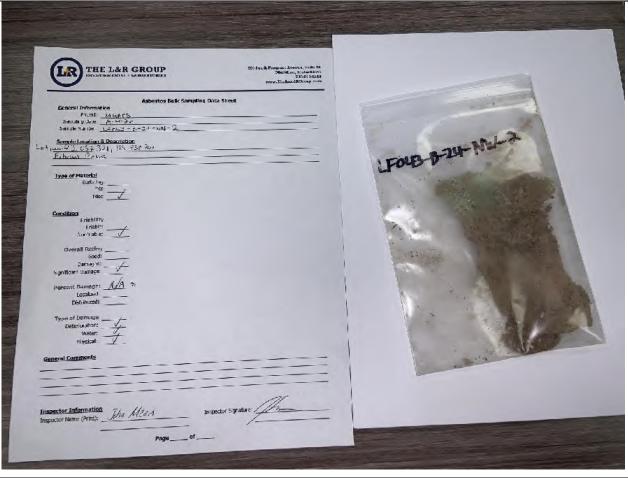




	Asbestos Bulk Sampling Data Sheet	580 South Pageron Riverson, Saint 23, Western, John Street 20:-883-889 www.Titel.undBGcoop.com		
General Information Project: M.P., A.F.R. Sampling Date: G. G-D. o. Sample Number: 1+003-3-2.	1 - Na - 2			
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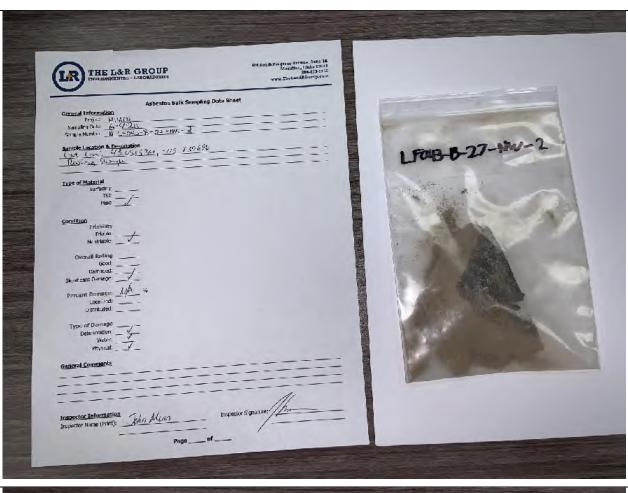
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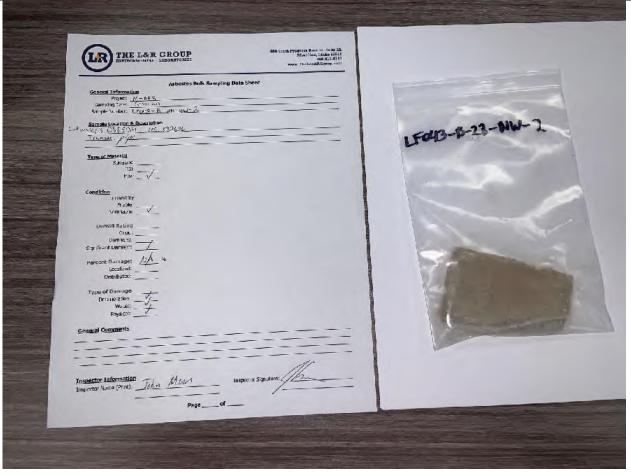
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Semeral Information  Project VINAGE  Compile Date: 1, 1770  Compile Number: 1, 1770 - 3, 22 - 1041 - 2		==	
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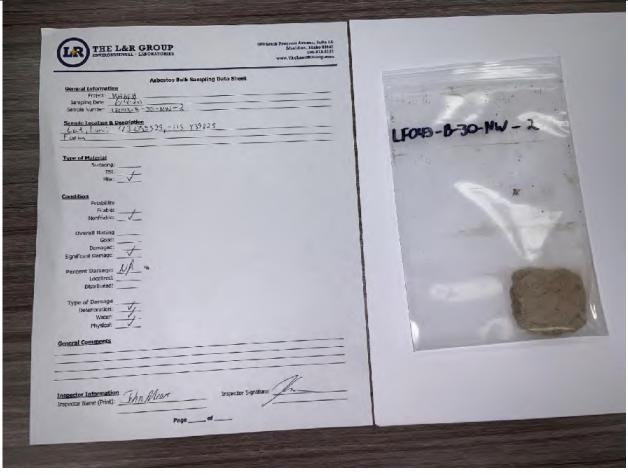
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Flysial: V  General Comments		
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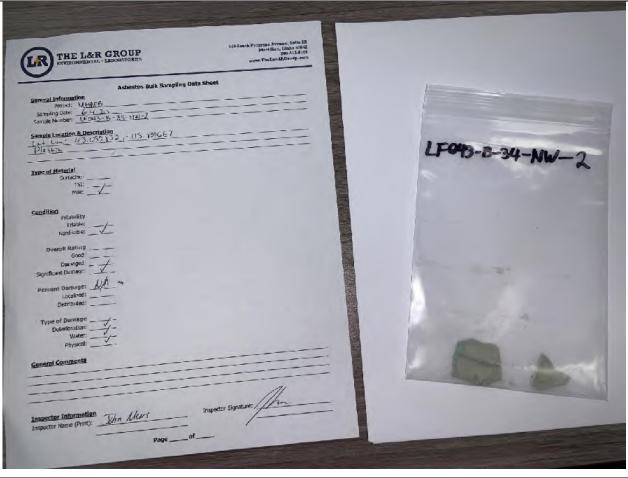
THE L&R GROUP	210 South Progress Annies, State IX. Districtive, Askins André Districtive, Askins André Districtive, Askins Annies Annie		
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Remote treation & Description Let. Low 43.059203 115.959223		Elach-B-33-MM-9-	
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Condition  Friedricy Priciple: (vontriable:			
Overall Rating Frod: Dan waged: Significant paracies			
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General Information  Mover: NITA F P  Sempley Date: LFD, W- F  Sample Number: LFD, W- F  Sample	ig Data Shoot	
Sample Location & Description (a+ Lon : 43 .056333, -115.7386) the Known Cheen material	<u> </u>	
Type of Material Sufficiency TSI: MISC:		LF013-6-31-NW-2
Condition Friability Friable:		
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Separicant Dannings:  Percent Dannings: 49		
Lecalized:		
Deterioration: Water: Physical:		1
General Comments		
Inspector Information Inspector Name (Print):  DA MC4/1	Inspector Signature	

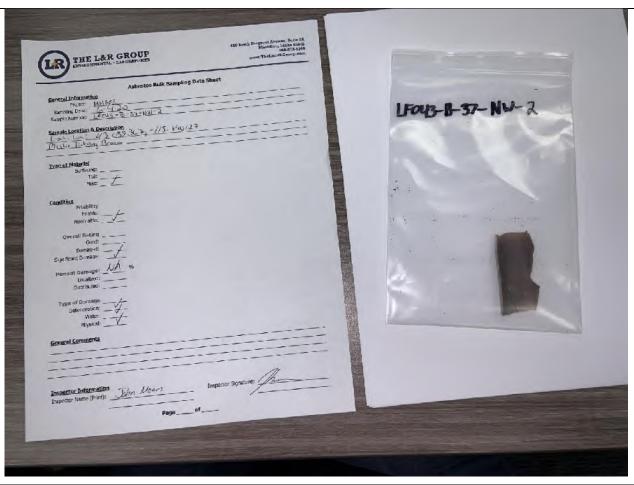
Asbestos	Bulk Sampling Data Sheet			
General Information Project: Mu AFB			100000	Section 19
Sampling Date: 6-4-20 Sample Number: LFO43 - 8-82-NW-	2			· · ·
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Condition				
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Inspector Information Inspector Name (Print):	Inspector Signature:	1100		

General Information	Asbestos Bulk Sampling Dat	a Sheet		
Sample Number: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-38-UW-2			-
Sample Location & Description Lut. Lon : 43.059			 . com B.	-33-NW-2
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Type of Material Surfacing: TSC:				
Misci				
Condition Priability Friability				
Nonfriable:V_				
Overall Rating Good: Damaged:				All Inches
Significant Damager V			1	
Percent Damage:	-			
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Type of Damage  Deterioration:				1
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General Comments			1000	
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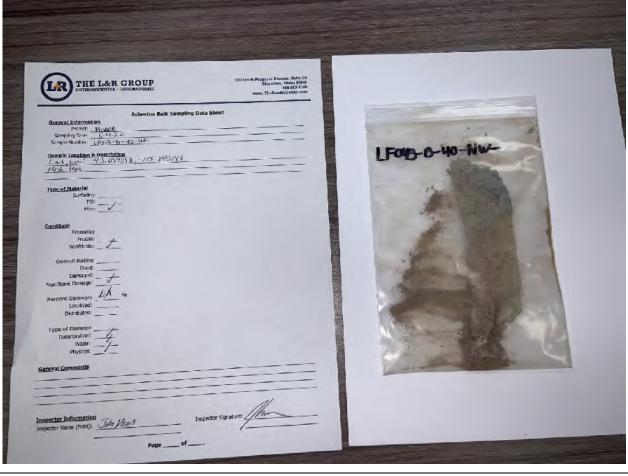
Asbestos Bulk Sampl	ing Data Sheet	
General Information Project: MHAFB		
Sample Number: LFQst3 - 8-26-LW-1		LF043-8-35-NW-2
Sample Location & Description  Lux 1/25, 059755, -1/5, 83273		
Tile w/masex		
Type of Material Surfacing:		
TSI:		
Condition Friability		
Frank:		
Overall Rating		
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Significant Domage:		
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Inspector Information Inspector Name (Print): Jihn Mears	Inspector Sgnature;	

General Information Project: MH ACT Sampling Date: A CT 2 C	ampling Data Sheet	
Simple Number: 1 E 045 - 5-3 g - N/W Sample Location & Description  Lat. Lun. 4/3 - 05/80/3, -1/5, 8/39.  Leans. L. Piper.	773	LFe43-6-36-NW-X
Type of Material Surfacing TSD: /—		
Condition Printity		
Prioble: / Norfriable: / Overall Rating Good:		
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General Comments		
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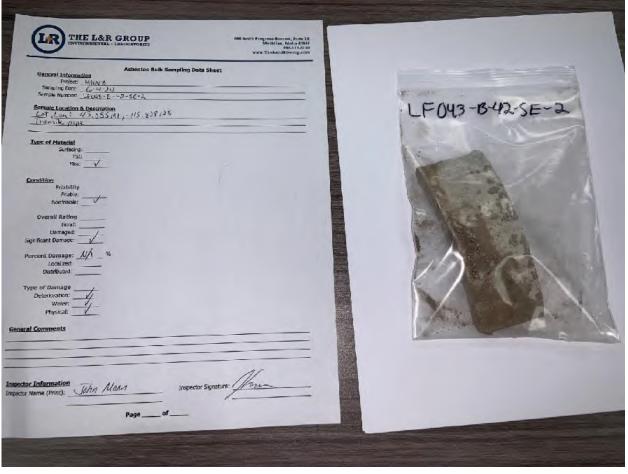


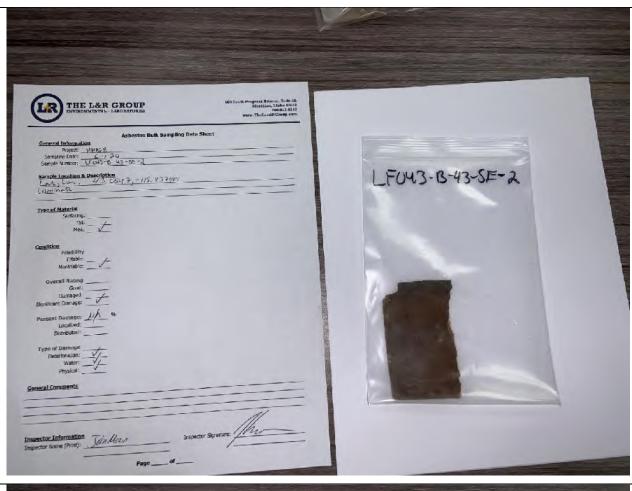
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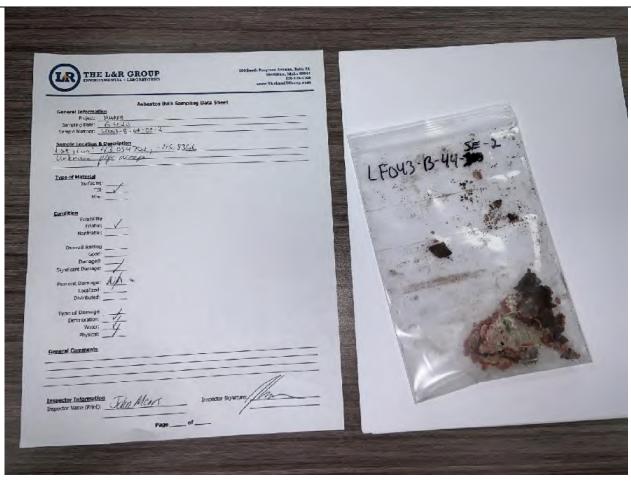
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Overall Rating Good: Significant Demage: Percent Demage: WA %		
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Physical Property		
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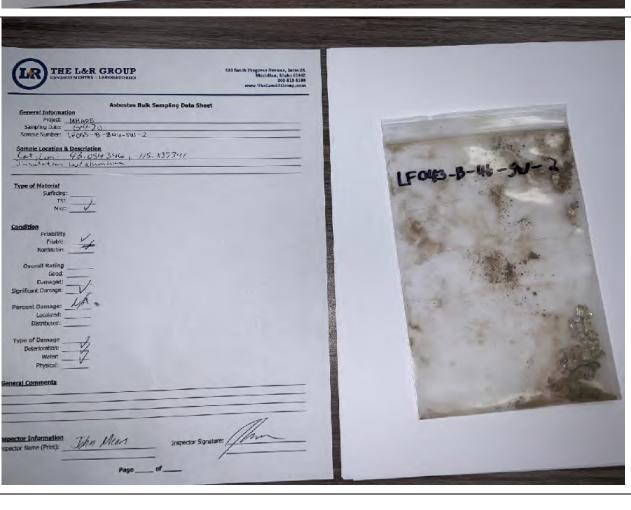
THE L&R GROUP	tall South Progress Are vans, Smire 26, Westerlam, Helder Soniel, Soniel Soniellam, Soniellam, Soni	
Ashestes Bulk Samplin General Information Project: NUAF 6	ng Data Sheet	
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Blac the		LF043-B-41-SE-2
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Overall Rating		
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Significant Damager NA %		
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Type of Damage		
Deterioration: 2/		
Physical:		
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	Inspector Signature:	



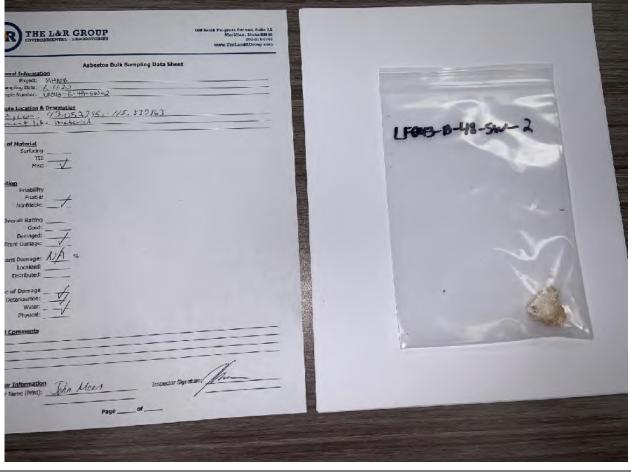




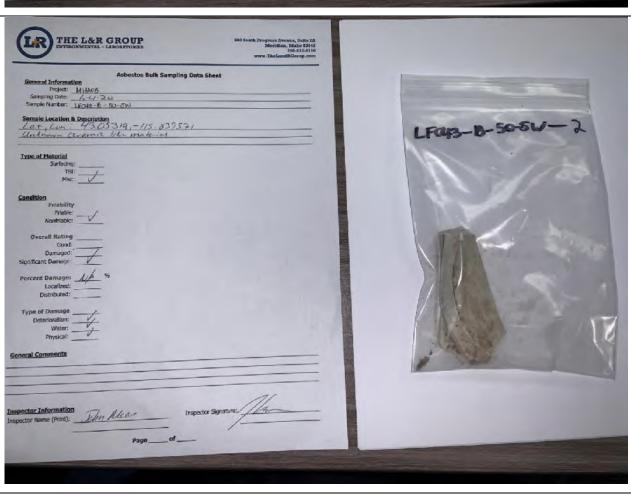
THE L&R GROUP	SRIE Seech Progress Avenue, Subje EX. Michigan, 1992 1884 1884 Michigan, 1992 1891 199 Michigan B. C. Barrer, 1992 1993 1993 Michigan B. C. Barrer, 1993 1993 Michigan	
Asbestos Bulk Sampling Da	ka Short	
Project MHAS 6 Sampling Date: (2015-20 Sample Number: 15043-8-45 S5-2		
ant lon! 43 05483 -113. 836677		LF043-13-45-5E-2
ype of Material		
Surfacing: TS1: Misc:		
ndition Priability		
Nonfriable:		
Overall Rating Good: Danlaged:		1
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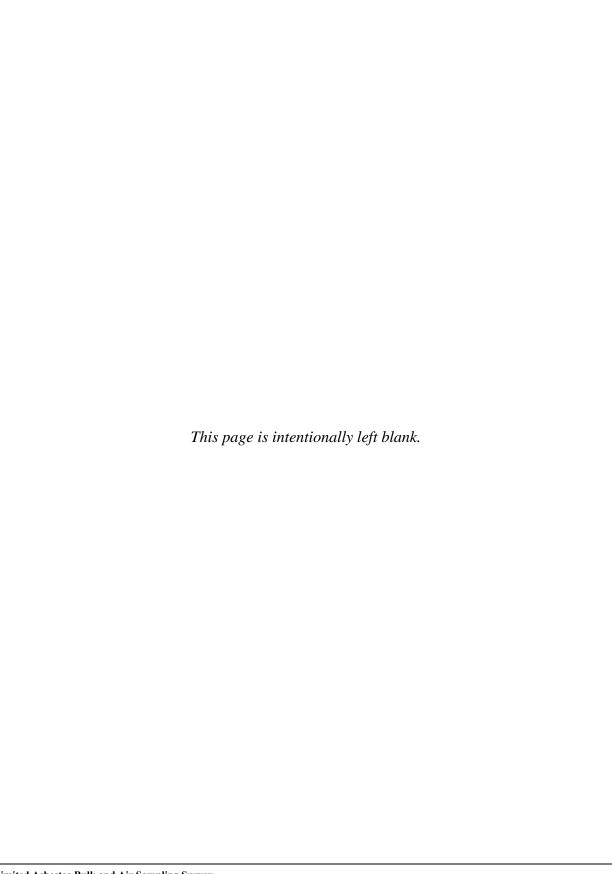


Asbestos Bulk Sampling Data Sheet  Project: 5, MARCE Sampling Data: 5, MARCE Sampling Data: 6, MARCE Sampling Data: 6, MARCE Sample Number: 2003 - 6, 43-500 2  Sample Number: 43, 053 30.44, -1/5, 839 532  Reck Data: 43, 053 30.44, -1/5, 839 532	
Type of Haterial Surfaces:  TSt. V. Mose	LF043-13-47-5W-2
Condition Friability Friab & Romfricole:	
Overall Reiding Good Sknifkram: Damages:  Percent Damages: NA %	
Localized: /   Type of Damage Deterioration: // Weier: //	
Physical:V_ necral Comments	
ector Information Jhn MCD / Inspector Signature:	



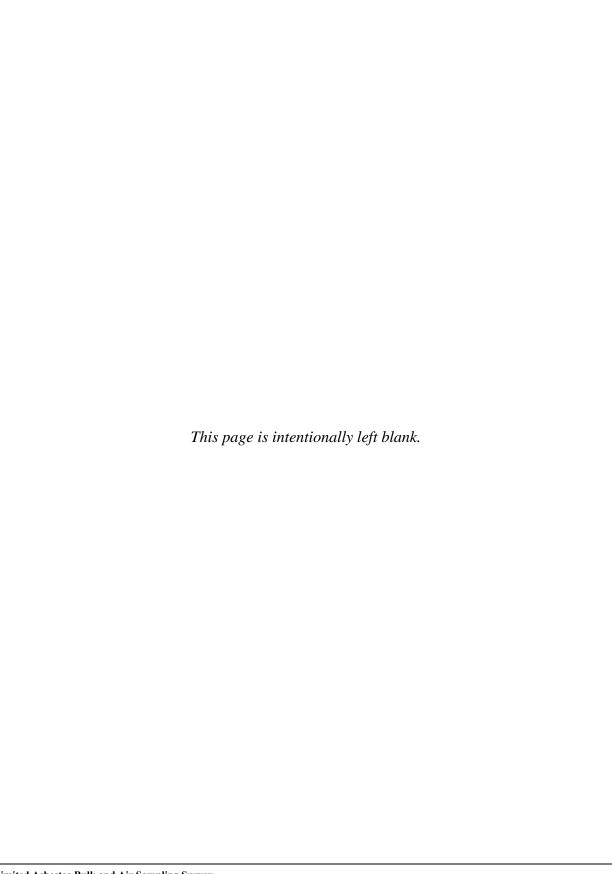
THE LER GROUP ENTHORMENTAL LARGESTORIES  ASSESSES Bulk Sampling Data Sheet  General Information  Project: White Sampling Data Sheet	
Policit Milks Sompling Date: 42 C 42 S Sample Number: 1903 - 8 - 44 - 50 - 2  Sample Scattlen & Description (2 + 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	LF043-0-41-5W-2
Condition Friability Friabile: Norfrieba:  Overall Rating Good Damage: Significant Domage:  Percent Damage:  **A***  *	
Localized: Distributed:  Type of Damiliage Deterioration: Water: Physical:  Imperal Comments	
pector Information Page of	

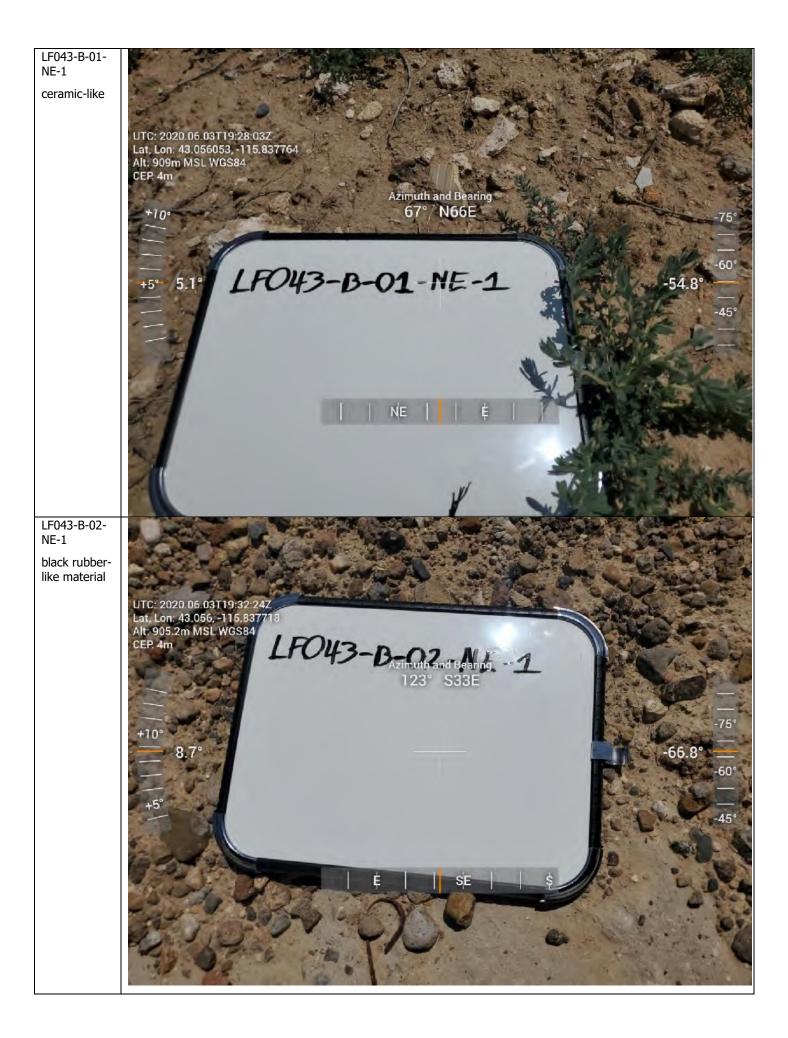






**Appendix C: Asbestos Bulk Sampling Location Photographs** 





LF043-B-03-NE-1 fiberboard



LF043-B-04-NE-1 insulation



LF043-B-05-NE-1 black rubber/plasti c pipe



LF043-B-06-NE-1 foam



LF043-B-07-NE-1 fiberboard



LF043-B-08-NE-1 vinyl tile



LF043-B-09-NE-1 plastic pipe



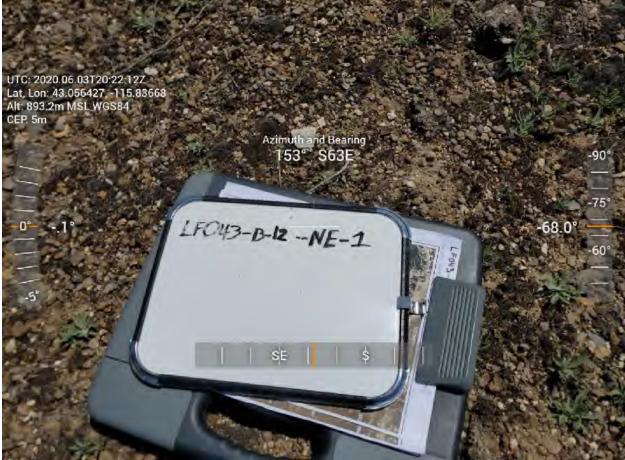
LF043-B-10-NE-1 foam



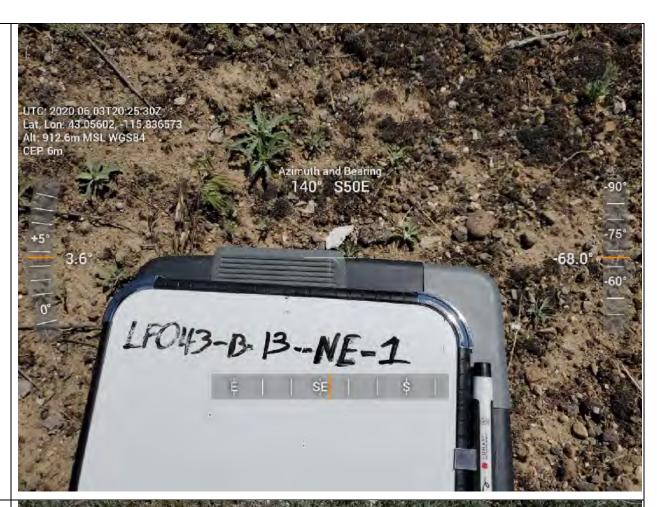
LF043-B-11-NE-1 plastic pipe



LF043-B-12-NE-1 transite-like material



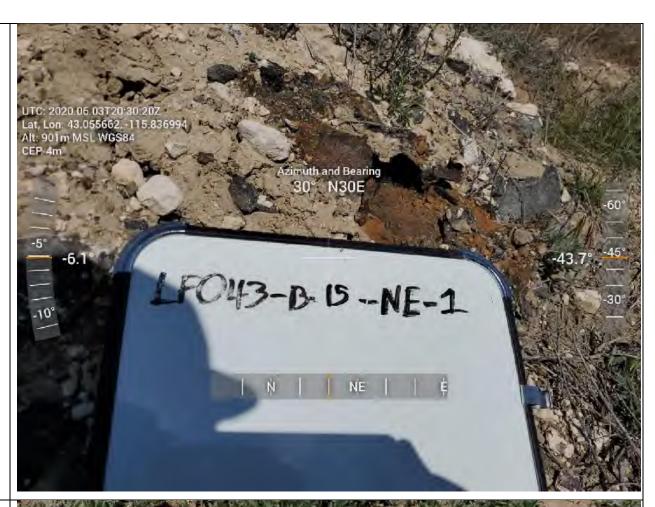
LF043-B-13-NE-1 plaster-like material



LF043-B-14-NE-1 asphalt



LF043-B-15-NE-1 metal pipe with tar-like coating



LF043-B-16-NE-1 black plastic



LF043-B-17-NE-1 painted fiberboard



LF043-B-18-NE-1 foam with aluminum insulation



LF043-B-19-NE-1 mastic on brick



LF043-B-20-NE-1 ceramic tile



LF043-B-21-NW-2 plastic



LF043-B-22-NW-2 roofing shingle



NW-2 fibrous material with mastic

LF043-B-23-



LF043-B-24-NW-2 fibrous plastic



LF043-B-25-NW-2 tile-like material



LF043-B-26-NW-2 PVC pipe



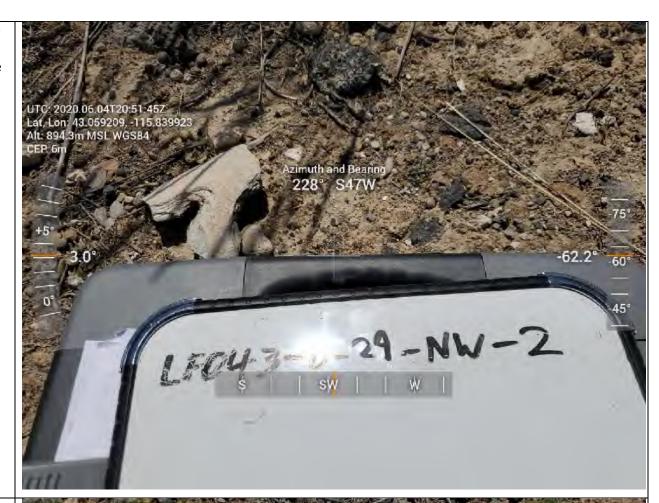
LF043-B-27-NW-2 roofing shingle



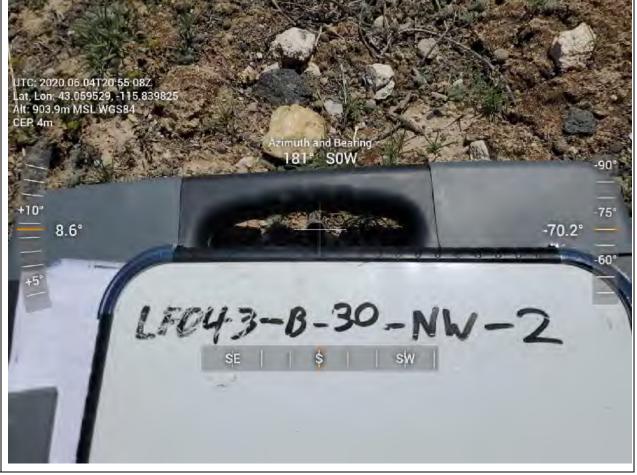
LF043-B-28-NW-2 transite pipe



LF043-B-29-NW-2 transite pipe



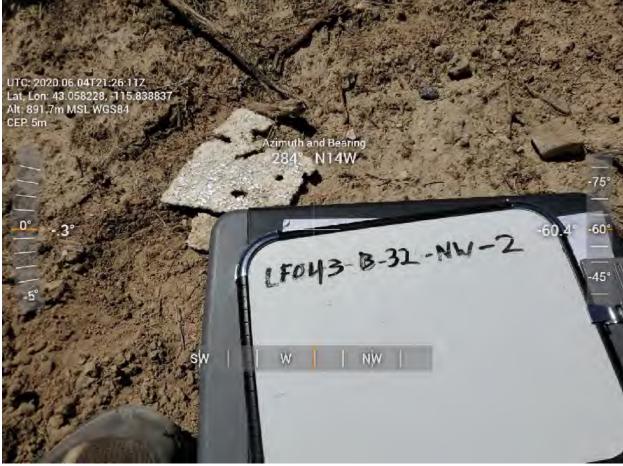
LF043-B-30-NW-2 foam



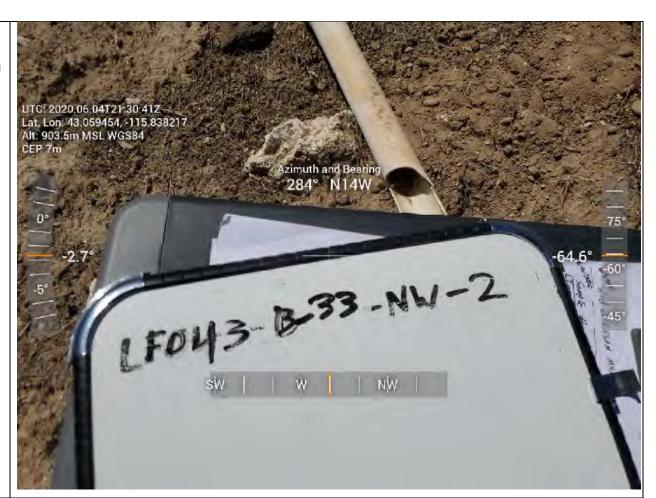
LF043-B-31-NW-2 fibrous material



LF043-B-32-NW-2 foam insulation with aluminum



LF043-B-33-NW-2 plastic tubing



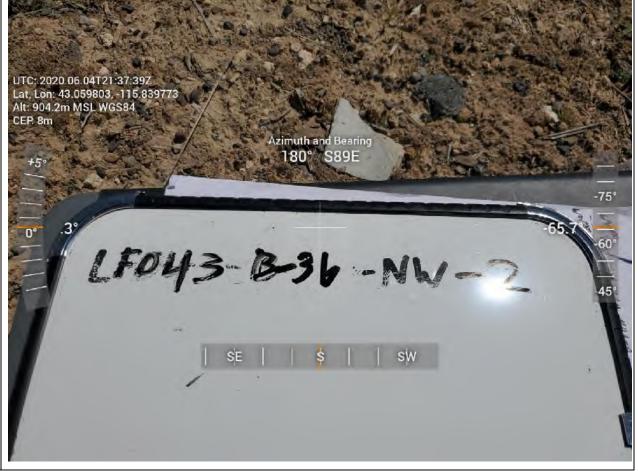
LF043-B-34-NW-2 plastic



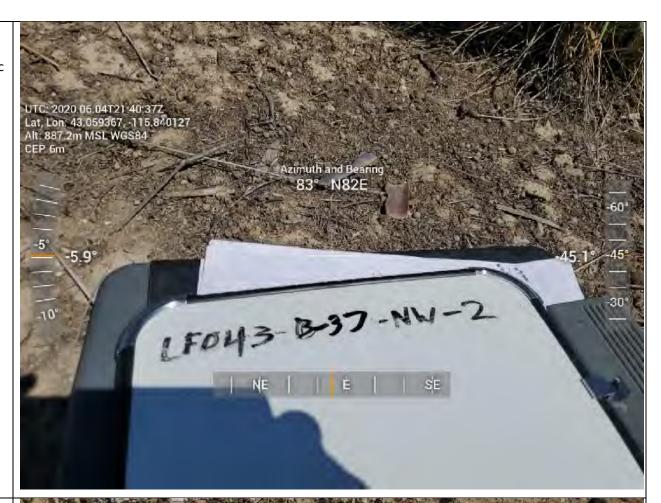
LF043-B-35-NW-2 vinyl tile with mastic



LF043-B-36-NW-2 transite pipe



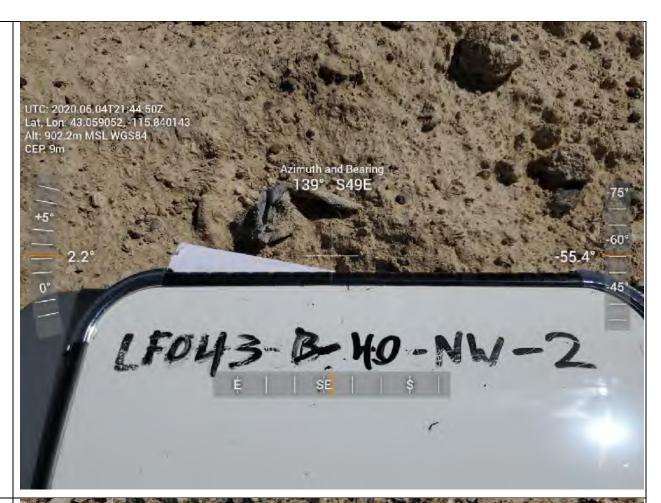
LF043-B-37-NW-2 brown plastic tubing



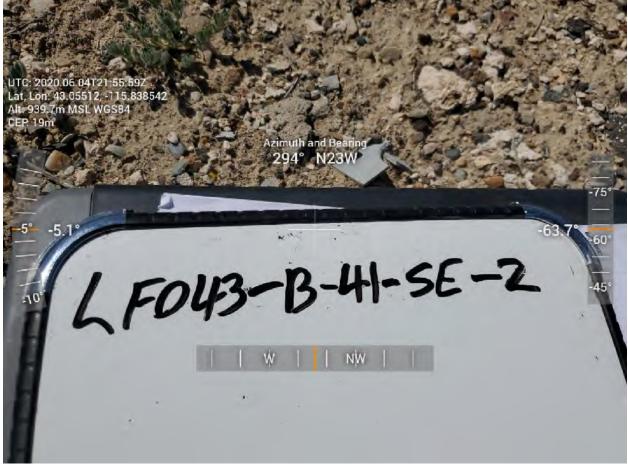
LF043-B-38-NW-2 transite



LF043-B-40-NW-2 mesh tape



LF043-B-41-SE-2 blue tile



LF043-B-42-SE-2 transite pipe



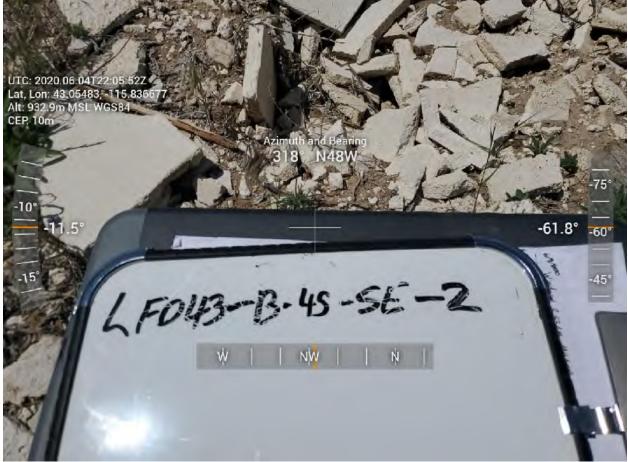
LF043-B-43-SE-2 laminate



LF043-B-44-SE-2 pipe wrap



LF043-B-45-SE-2 transite and brick



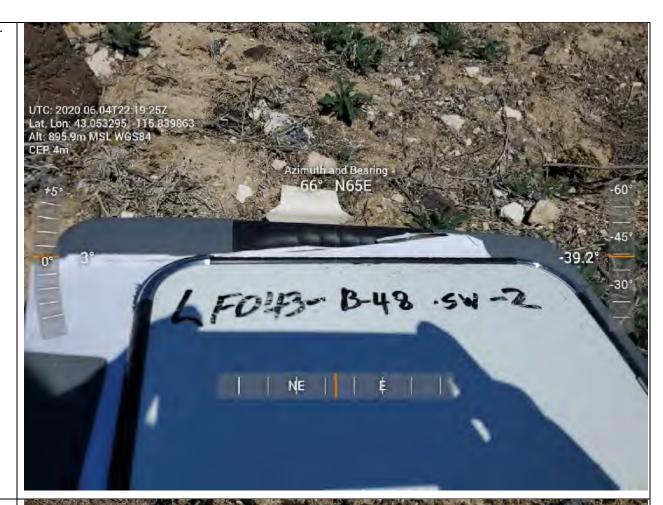
LF043-B-46-SW-2 insulation with aluminum



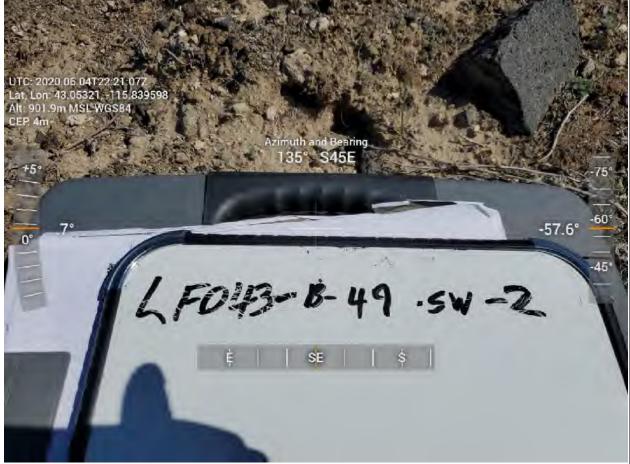
LF043-B-47-SW-2 red brick-like material



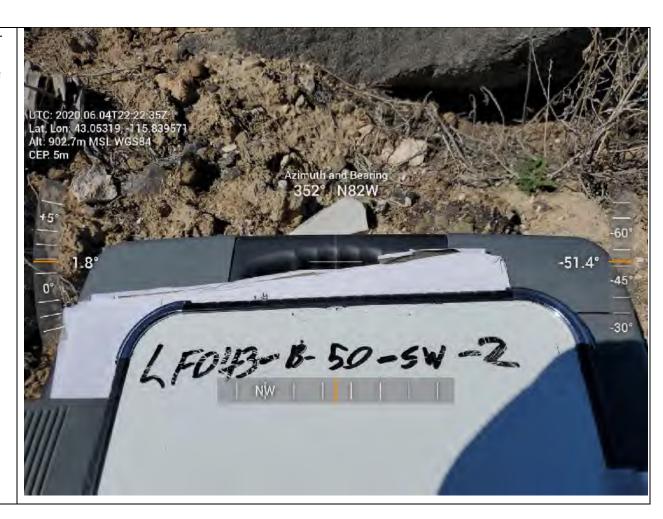
LF043-B-48-SW-2 cement-like material

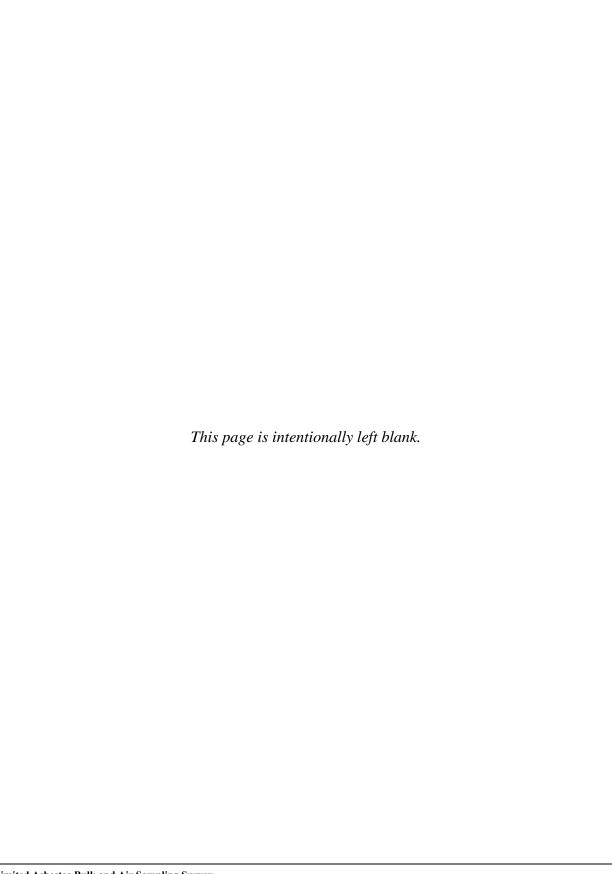


LF043-B-49-SW-2 blue tile



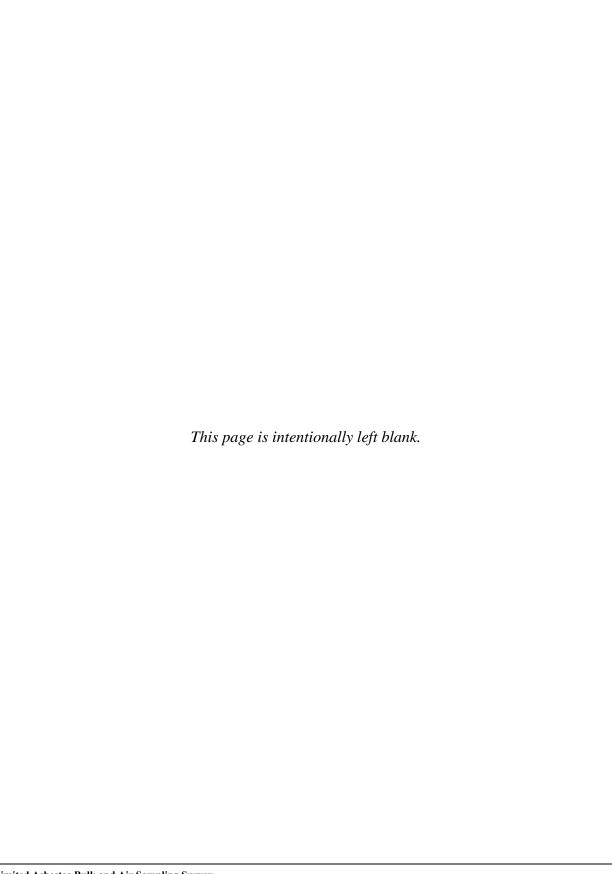
LF043-B-50-SW-2 ceramic-like material







Appendix D: Asbestos Bulk Sampling Materials, Coordinates and Analysis Results



## Asbestos Bulk Sample Summary Table

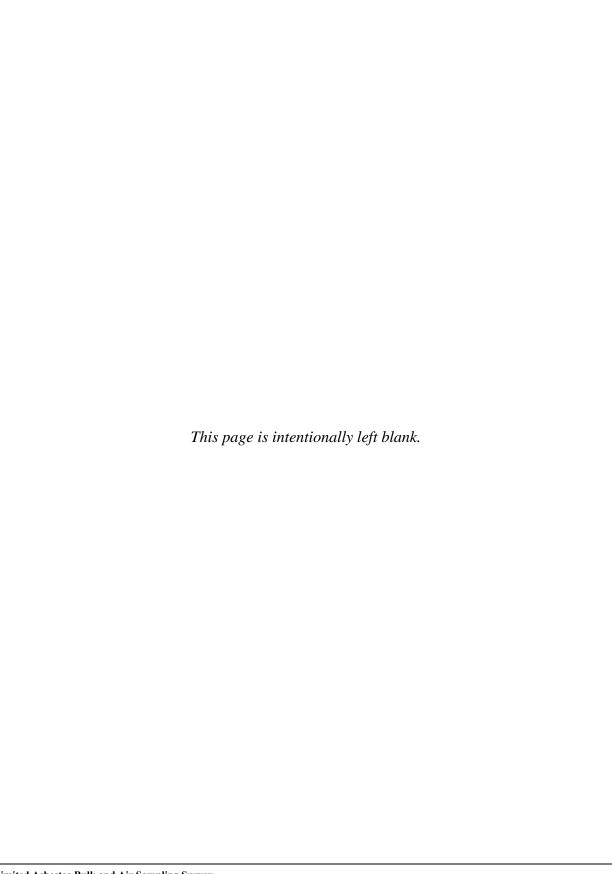
				% Asbestos Content
SAMPLE NUMBER	LATITUDE	LONGITUDE	MATERIAL	(ND = None Detected)
LF043-B-01-NE-1	43.056053	-115.837764	ceramic-like	ND
LF043-B-02-NE-1	43.056	-115.837718	black rubber-like material	ND
LF043-B-03-NE-1	43.056024	-115.837553	fiberboard	ND
LF043-B-04-NE-1	43.055805	-115.837444	insulation	ND
LF043-B-05-NE-1	43.055977	-115.83731	black rubber/plastic pipe	ND
LF043-B-06-NE-1	43.056819	-115.837556	foam	ND
LF043-B-07-NE-1	43.057803	-115.837141	fiberboard	ND
LF043-B-08-NE-1	43.057857	-115.83709	vinyl tile	ND
LF043-B-09-NE-1	43.057365	-115.836612	plastic pipe	ND
LF043-B-10-NE-1	43.057361	-115.836794	foam	ND
LF043-B-11-NE-1	43.056673	-155.836691	plastic pipe	ND
LF043-B-12-NE-1	43.056427	-115.83668	transite-like material	20 Chrysotile
LF043-B-13-NE-1	43.05602	-115.836573	plaster-like material	ND
LF043-B-14-NE-1	43.055685	-115.836863	asphalt	ND
LF043-B-15-NE-1	43.055662	-115.836994	metal pipe with tar-like coating	ND
LF043-B-16-NE-1	43.055566	-115.836675	black plastic	ND
LF043-B-17-NE-1	43.055683	-115.837487	painted fiberboard	ND
LF043-B-18-NE-1	43.055994	-115.838177	foam with aluminum insulation	ND
LF043-B-19-NE-1	43.05618	-115.838324	mastic on brick	ND
LF043-B-20-NE-1	43.055489	-115.83766	ceramic tile	ND
LF043-B-21-NW-2	43.055427	-115.839019	plastic	ND
LF043-B-22-NW-2	43.056074	-115.839066	roofing shingle	ND
LF043-B-23-NW-2	43.05615	-115.839002	fibrous material with mastic	ND
LF043-B-24-NW-2	43.057321	-115.838701	fibrous plastic	ND
LF043-B-25-NW-2	43.05781	-115.839742	tile-like material	ND
LF043-B-26-NW-2	43.058362	-115.839824	PVC pipe	ND
LF043-B-27-NW-2	43.058534	-115.839696	roofing shingle	ND
				20 Chrysotile
				10 Amosite
LF043-B-28-NW-2	43.058534	-115.839696	transite pipe	10 Crocidolite

## Asbestos Bulk Sample Summary Table (cont'd)

				20 Chrysotile
				10 Amosite
LF043-B-29-NW-2	43.059209	-115.839923	transite pipe	10 Crocidolite
LF043-B-30-NW-2	43.059529	-115.839825	foam	ND
LF043-B-31-NW-2	43.056333	-115.838685	fibrous material	30 Chrysotile
LF043-B-32-NW-2	43.058228	-115.838837	foam insulation with aluminum	ND
LF043-B-33-NW-2	43.059454	-115.838217	plastic tubing	ND
LF043-B-34-NW-2	43.059832	-115.839667	plastic	ND
LF043-B-35-NW-2	43.059755	-115.839734	vinyl tile with mastic	4.9 Chrysotile (mastic)
				20 Chrysotile
LF043-B-36-NW-2	43.059803	-115.839773	transite pipe	20 Crocidolite
LF043-B-37-NW-2	43.059367	-115.840127	brown plastic tubing	ND
				20 Chrysotile
LF043-B-38-NW-2	43.059328	-115.839973	transite	20 Crocidolite
				20 Chrysotile
LF043-B-39-NW-2	43.059328	-115.837973	transite	20 Crocidolite
LF043-B-40-NW-2	43.059052	-115.840143	mesh tape	ND
LF043-B-41-SE-2	43.05512	-115.838542	blue tile	2.4 Chrysotile
				20 Chrysotile
LF043-B-42-SE-2	43.055191	-115.838128	transite pipe	20 Crocidolite
LF043-B-43-SE-2	43.0547	-115.837481	laminate	ND
LF043-B-44-SE-2	43.054702	-115.8366	pipe wrap	ND
				20 Chrysotile (transite)
LF043-B-45-SE-2	43.05483	-115.836677	transite and brick	Brick ND
LF043-B-46-SW-2	43.054346	-115.839341	insulation with aluminum	ND
LF043-B-47-SW-2	43.053364	-115.839582	red brick-like material	ND
LF043-B-48-SW-2	43.053295	-115.839863	cement-like material	ND
LF043-B-49-SW-2	43.05321	-115.839598	blue tile	ND
LF043-B-50-SW-2	43.05319	-115.839571	ceramic-like material	ND



Appendix E: iATL Asbestos Bulk Sample Analysis Report and Chain of Custody





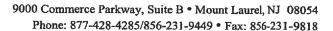
## Chain of Custody

	-Dulk	Asbestos –			
Contact Inform	ation_				
Client Company:	The L&R Group	Project Number:	190075T		
Office Address:	680 S. Progress Ave.	Project Name:	MHAFB LF043		
City, State, Zip:	Meridian, ID 83642	Primary Contact:	Laurie Kuther/L&R		
Fax Number:		Office Phone:	208-813-7700		
Email Address:	laurie@thelandrgroup.com	Cell Phone:	-		
		-			
PLM Instruction	ns.				
Printed	estos Building Materials EPA 600 R-93	/116 1002			
	estos Building Materials EPA 600 M-4/				
	estos Building Materials NIOSH 9002,				
PLM: Bulk Asbe	estos Building Materials NYSDOH-ELA	AP 198.1, 2002			
PLM: Bulk Asbe	estos Building Materials NYSDOH-ELA	AP 198.6, 2010			
L TEM: Bulk Asbe	estos Building Materials NYSDOH-ELA	AP 198.4, 2009			
DI M. Daint C	n4:n ~				
☐ PLM: Point Cour ☐ PC: via ELA			PLM: Analyze Until Positive (Positive Stop)		
PC: 400 Poin			AUP: by Homogenous Area as Noted		
☐ PC: 400 Points ☐ AUP: by Material Type as Noted ☐ PC: 800 Points * ☐ PLM: NOB via 198.6					
☐ PC: 1600 Poi		(money)	able via EPA 600 2.3		
	If <1% by PLM, to TEM via 198.4 *				
PLM: Instruction	PLM: Instructions for Multi-Layered Samples   If <1% by PLM, to TEM via 198.4  If <1% by PLM, Hold for Instructions				
	Report All Separable Layers per EPA 6	500	•		
Report Comp	oosite for Drywall Systems per NESHA	P PLM: Non-Bu	uilding Material*,*** (Dust, Wipe, Tape)		
	ayers and Composite Where Applicable	Soil or Ve	rmiculite Analysis*		
	e and Report Specifically Noted Layer	CARB 43	5		
Special Instructions:					
* Additional charge and turnaround may be required  ** Alternative Method (ex: EPA 600/R-04/004) may be recommended by Laboratory					
manional ci	narge and turnarouna may be required	ternative Method (ex. EFA 000/K-04	47004) may be recommended by Laboratory		
Turnaround Tin	ne				
Preliminary Results Re	quested Date:	Verba	ıl Email Esax		
Specific date / time					
10 Day 5 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**					
* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***					
Chain of Custo	dv				
	Organization): Laurie Kuther/L&R	Date: 6-8-20	Time: 1400 🖨 🥫 🕫 🖰 🐧 💆		
Received (Name / iA		Date: <u>বিটোলনিক</u>	Time: 1400		
Sample Login (Name		Date:	Time:		
Analysis(Name(s) / i QA/QC Review (Name		Date:	Time:		
Archived / Released:		Date: Date:	Time:		



## **Chain of Custody**

	—Bulk	: Asbestos –		
Contact Information Client Company: Office Address: City, State, Zip: Fax Number: Email Address:	The L&R Group  680 S. Progress Ave.  Meridian, ID 83642  laurie@thelandrgroup.com	Project Number: Project Name: Primary Contact: Office Phone:	190075T  MHAFB LF043  Laurie Kuther/L&R  208-813-7700	
PLM Instructions:  PLM: Bulk Asbestos Building Materials EPA 600 R-93/116, 1993  PLM: Bulk Asbestos Building Materials EPA 600 M-4/82-020, 1982  PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.1, 2002  PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.1, 2002  PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.6, 2010  TEM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.4, 2009  PLM: Point Counting  PC: via ELAP 198.1  PC: via ELAP 198.1  PC: 400 Points  PC: 800 Points *  PC: 1600 Points *  PLM: Instructions for Multi-Layered Samples  Analyze and Report All Separable Layers per EPA 600  Report Composite for Drywall Systems per NESHAP  Report All Layers and Composite Where Applicable  Only Analyze and Report Specifically Noted Layer  Special Instructions:				
		Alternative Method (ex: EPA 600/R-0	04/004) may be recommended by Laboratory	
			6 Hour** RUSH**	
Chain of Custo Relinquished (Name / i.A. Sample Login (Name / i.A. Sample Login (Name Analysis (Name(s) / i. QA/QC Review (Na Archived / Released	ATL):  e / iATL):  iATL):  me / iATL):  sme / iATL):  Equipment   Continue   Continue	Date: 6-8-20 Date: 10 1174774  Date: Date: Date: Date: Date:	Time: 1400 To the state of the	





-Bulk Asbestos -

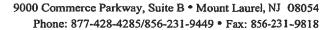
Cliante	The	L&R	Group	
i nenr				

Sampling Date/Time: 6/4/2020-6/5/2020

Project: MHAFB LF043

2 6/3/2020 - 6/4/2020

	Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes	
LF043-B-01-NE-1	7020393	Tile/grout		
LF043-B-02-NE-1	7020394	Black rubber like material		
LF043-B-03-NE-1	7020395	Fiberboard		
LF043-B-04-NE-1	7020396	Insulation		
LF043-B-05-NE-1	7020397	Black rubber/plastic pipe		
LF043-B-06-NE-1	7020398	Foam		
LF043-B-07-NE-1	7020399	Fiberboard		
LF043-B-08-NE-1	7020400	Tile		
LF043-B-09-NE-1	7020401	Plastic pipe		
LF043-B-10-NE-1	7020402	Foam		
LF043-B-11-NE-1	7020403	Plastic pipe		
LF043-B-12-NE-1	7020404	Unknown Transite-like		
LF043-B-13-NE-1	7020405	Unknown plaster-like		
LF043-B-14-NE-1	7020406	Asphalt		
LF043-B-15-NE-1	7020407	Tar coating on metal pipe		
LF043-B-16-NE-1	7020408	Black plastic		





-Bulk Asbestos -

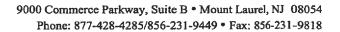
Client: The L&R Group

Project: MHAFB LF043

Sampling Date/Time: 6/4/2020-6/5/2020 6/3/2020 - 6/4/2020

	Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes	
LF043-B-17-NE-1	IAILW	1	Hotes	
LFU43-D-17-NE-1	7020409	Painted fiberboard		
LF043-B-18-NE-1	7020410	foam with aluminum insulation		
LF043-B-19-NE-1	7020411	mastic on brick		
LF043-B-20-NE-1	7020412	ceramic tile		
LF043-B-21-NW-2	7020413	plastic		
LF043-B-22-NW-2	7020414	Roofing shingle		
LF043-B-23-NW-2	7020415	fibrous material with mastic		
LF043-B-24-NW-2	7020416	fibrous plastic		
LF043-B-25-NW-2	7020417	unknown, tile like		
LF043-B-26-NW-2	7020418	PVC pipe		
LF043-B-27-NW-2	7020419	Roofing shingle		
LF043-B-28-NW-2	7029420	Transite pipe		
LF043-B-29-NW-2	7023421	Transite pipe		
LF043-B-30-NW-2	7020422	Foam		
LF043-B-31-NW-2	7020423	unknown fibrous material		
LF043-B-32-NW-2	7020424	foam insulation		







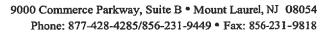
-Bulk Asbestos -

Client: The L&R Group

Project: MHAFB LF043

Sampling Date/Time: 6/4/2020-6/5/2020 6/3/2020 - 6/4/2020

Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes
LF043-B-33-NW-2	7020425	plastic tubing	
LF043-B-34-NW-2	7020425	plastic	
LF043-B-35-NW-2	7020427	tile with mastic	
LF043-B-36-NW-2	7020428	Transite pipe	
LF043-B-37-NW-2	7020429	Plastic tubing brown	
LF043-B-38-NW-2	7023430	Transite pipe	
LF043-B-39-NW-2	7020431	Transite pipe	
LF043-B-40-NW-2	7020432	Mesh tape	
LF043-B-41-SE-2	7020433	blue tile	
LF043-B-42-SE-2	7020434	Transite pipe	
LF043-B-43-SE-2	7020435	laminate	
LF043-B-44-SE-2	7020436	unknown pipe wrap	
LF043-B-45-SE-2	7020437	Transite and brick	
LF043-B-46-SW-2	7020438	Insulation	
LF043-B-47-SW-2	7020439	red brick	
LF043-B-48-SW-2	7020440	cement like material	





-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/2020	0 6/3/2020 - 6/4/2020

	Ві	ulk Asbestos Sample Log	
Client Sample #	iATL#	Location/Description	Notes
LF043-B-49-SW-2	7020441	blue tile	
LF043-B-50-SW-2	unknown, ceramic like		
			1 44 - 11 - 14





LABORATORY REPORT



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services Report Date: 6/16/2020

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Project No.: 190075T Client: LRG308

### PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020393 Analyst Observation: Off-White Ceramic Location: Client No.: LE043-B-01-NE-1 Client Description: Tile/Grout **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected 100 None Detected

**Lab No.:** 7020393(L2) **Analyst Observation:** Grey Grout **Location:** Client No.: LE043-B-01-NE-1 Client Description: Tile/Grout **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

3 Cellulose None Detected

Lab No.: 7020394 **Analyst Observation:** Black Fibrous Location: Client No.: LE043-B-02-NE-1 Client Description: Black Rubber Like Material **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

7 Cellulose None Detected

**Lab No.:** 7020395 **Analyst Observation:** Brown Fiberboard Location: Client No.: LE043-B-03-NE-1 Client Description: Fiberboard **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

80 Cellulose None Detected

**Lab No.:** 7020396 Analyst Observation: Silver/Tan Wrap / Insulation **Location:** Client No.: LE043-B-04-NE-1 Client Description: Insulation **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

2 Cellulose None Detected

**Analyst Observation:** Black Pipe Material **Location:** Client No.: LE043-B-05-NE-1 Client Description: Black Rubber/Plastic Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/12/2020 Date Analyzed:

Signature:

Sarah Lipiecki Analyst:

Dated: 6/17/2020 12:48:34

Approved By:

Frank E. Ehrenfeld, III

Laboratory Director



-----

9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 856-231-9449

Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services Report Date: 6/16/2020

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Project No.: 190075T Client: LRG308

### PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020398 **Analyst Observation:** Yellow Foam Location: Client No.: LE043-B-06-NE-1 Client Description: Foam **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Analyst Observation:** Brown Fiberboard Lab No.: 7020399 Client No.: LE043-B-07-NE-1 Client Description: Fiberboard **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

80 Cellulose None Detected

Lab No.: 7020400 **Analyst Observation:** White Floor Tile Location: Client No.: LE043-B-08-NE-1 Client Description: Tile **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Analyst Observation:** White Pipe Material **Lab No.:** 7020401 Client No.: LE043-B-09-NE-1 Client Description: Plastic Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020402 **Analyst Observation:** Yellow Foam Location: Client No.: LE043-B-10-NE-1 Client Description: Foam **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Analyst Observation:** White Pipe Material Location: Client No.: LE043-B-11-NE-1 Client Description: Plastic Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/12/2020 Date Analyzed:

Dated: 6/17/2020 12:48:34

Signature: Analyst:

Sarah Lipiecki

Approved By:

Frank E. Ehrenfeld, III Laboratory Director



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Project No.: 190075T

### PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020404 **Analyst Observation:** Grev Cement Product Location: Client No.: LE043-B-12-NE-1 Client Description: Unknown Tansite-Like **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

8 Cellulose **20** Chrysotile

Lab No.: 7020405 **Analyst Observation:** White Stucco **Location:** Client No.: LE043-B-13-NE-1 Client Description: Unknown Plaster-Like **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

Lab No.: 7020406 **Analyst Observation:** Black Asphalt Location: Client No.: LE043-B-14-NE-1 Client Description: asphalt **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

5 Cellulose None Detected

**Lab No.:** 7020407 **Analyst Observation:** Black Tar Location: Client No.: LE043-B-15-NE-1 Client Description: Tar Coating On Metal Pipe **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020408 **Analyst Observation:** Black Non-Fibrous **Location:** Client No.: LE043-B-16-NE-1 Client Description: Black Plastic **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/12/2020 Date Analyzed:

Signature: Sarah Lipiecki

Analyst:

Dated: 6/17/2020 12:48:34

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Page 3 of 15



\_\_\_\_\_

9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 856-231-9449

Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services Report Date: 6/16/2020

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Project No.: 190075T Client: LRG308

### PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020409 Analyst Observation: White Fiberboard Location: Client No.: LE043-B-17-NE-1 Client Description: Painted Fiberboard **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

90 Cellulose None Detected

Lab No.: 7020410 **Analyst Observation:** Silver Wrap **Location:** Client No.: LE043-B-18-NE-1 Client Description: Foam With Aluminum Insulation **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

10 Cellulose None Detected

**Lab No.:** 7020410(L2) Analyst Observation: Yellow Foam

**Location:** Client No.: LE043-B-18-NE-1 Client Description: Foam With Aluminum Insulation **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Location: Lab No.:** 7020411 **Analyst Observation:** Black Mastic Client No.: LE043-B-19-NE-1 Client Description: Mastic On Brick **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020411(L2) Analyst Observation: Off-White Mortar **Location:** Client No.: LE043-B-19-NE-1 Client Description: Mastic On Brick **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

Analyst Observation: Off-White Ceramic Location: Client No.: LE043-B-20-NE-1 Client Description: Ceramic TIle **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Sarah Lipiecki

Analyst:

Dated: 6/17/2020 12:48:34

Approved By:

100

Frank E. Ehrenfeld, III Laboratory Director

Page 4 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Report Date:

6/16/2020

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Project No.: 190075T Client: LRG308

## PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020413 **Analyst Observation:** Off-White Non-Fibrous Location: Facility: Client No.: LE043-B-21-NW- Client Description: Plastic

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020414 **Analyst Observation:** Black Shingle **Location:** 

Client No.: LE043-B-22-NW- Client Description: Roofing Shingle **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material: 20 Fibrous Glass None Detected

Lab No.: 7020415 **Analyst Observation:** Black Fibrous Location:

Client No.: LE043-B-23-NW- Client Description: Fibrous Material With Mastic **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

80 Cellulose None Detected

**Lab No.:** 7020415(L2) **Analyst Observation:** Black Mastic **Location:** 

Client No.: LE043-B-23-NW- Client Description: Fibrous Material With Mastic **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

Lab No.: 7020416 **Analyst Observation:** Green FRP Sheeting **Location:** 

Client No.: LE043-B-24-NW- Client Description: Fibrous Plastic **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

30 Fibrous Glass None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Sarah Lipiecki Analyst:

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Dated: 6/17/2020 12:48:34 Page 5 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Report Date:

6/16/2020

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043 Project No.: 190075T

Client: LRG308

### PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7020416(L2) Analyst Observation: Grey Debris Location: Client No.: LE043-B-24-NW- Client Description: Fibrous Plastic **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected 20 Cellulose

**Lab No.:** 7020417 **Analyst Observation:** Tan/White Non-Fibrous **Location:** 

Client No.: LE043-B-25-NW- Client Description: Unknown, Tile Like **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected None Detected 100

**Lab No.:** 7020417(L2) **Analyst Observation:** Black Non-Fibrous **Location:** Facility: Client No.: LE043-B-25-NW- Client Description: Unknown, Tile Like

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020418 **Location:** 

**Analyst Observation:** White Pipe Material Client No.: LE043-B-26-NW- Client Description: PVC Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: None Detected None Detected

**Lab No.:** 7020418(L2) Analyst Observation: Brown Debris **Location: Facility:** 

Client No.: LE043-B-26-NW- Client Description: PVC Pipe

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

5 Cellulose None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Dated: 6/17/2020 12:48:35

Signature: Sarah Lipiecki Analyst:

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Percent Non-Fibrous Material:

100

Page 6 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Report Date:

6/16/2020

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Project No.: 190075T Client: LRG308

### PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7020419 **Analyst Observation:** Black Shingle Location: Client No.: LE043-B-27-NW- Client Description: Roofing Shingle **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected 20 Fibrous Glass

Lab No.: 7020420 **Analyst Observation:** Grey Cement Product **Location: Facility:** 

Client No.: LE043-B-28-NW- Client Description: Transite Pipe

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

Percent Asbestos: 20 Chrysotile None Detected

10 Amosite 10 Crocidolite

**Analyst Observation:** Grey Cement Product **Lab No.:** 7020421 **Location:** Client No.: LE043-B-29-NW- Client Description: Transite Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected **20** Chrysotile

10 Amosite 10 Crocidolite

Lab No.: 7020422 **Analyst Observation:** Blue Foam **Location:** Client No.: LE043-B-30-NW- Client Description: Foam **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material: Percent Asbestos:

None Detected None Detected

**Lab No.:** 7020422(L2) Analyst Observation: Tan Debris **Location:** 

Client No.: LE043-B-30-NW- Client Description: Foam

**Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 5 Cellulose 95

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Sarah Lipiecki Analyst:

Dated: 6/17/2020 12:48:35 Page 7 of 15 Approved By:

Frank E. Ehrenfeld, III Laboratory Director



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Report Date:

6/16/2020

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Client: LRG308 Project No.: 190075T

## PLM BULK SAMPLE ANALYSIS SUMMARY

\_\_\_\_\_\_

Lab No.: 7020423Analyst Observation: Grey FibrousLocation:Client No.: LE043-B-31-NW-Client Description: Unknown Fibrous MaterialFacility:

2

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

30 Chrysotile None Detected 70

Lab No.: 7020424 Analyst Observation: White/Silver Insulation Location:

Client No.: LE043-B-32-NW- Client Description: Foam Insulation Facility:

2.

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected 100

Lab No.: 7020425 Analyst Observation: White Pipe Material Location:

Client No.: LE043-B-33-NW- Client Description: Plastic Tubing Facility:

2

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected 100

T. 1. V. 7000404

Lab No.: 7020426 Analyst Observation: Blue Non-Fibrous Location:
Client No.: I F043-B-34-NW- Client Description: Plastic Facility:

Client No.: LE043-B-34-NW- Client Description: Plastic

Facility:

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected 100

Lab No.: 7020427Analyst Observation: White Floor TileLocation:Client No.: LE043-B-35-NW-Client Description: Tile With MasticFacility:

Client No.: LE043-B-35-NW

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

Percent Asbestos:Percent Non-Asbestos Fibrous Material:Percent Non-FiNone DetectedNone Detected100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 6/10/2020

Date Analyzed: 06/16/2020

Signature:
Analyst: Sarah Lipiecki

Approved By:

Frank E. Ehrenfeld, III Laboratory Director



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Project No.: 190075T

# PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7020427(L2) Analyst Observation: Black Mastic Location: Client No.: LE043-B-35-NW- Client Description: Tile With Mastic **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

PC 4.9 Chrysotile None Detected

------

Lab No.: 7020428 **Analyst Observation:** Grey Cement Product **Location:** 

Client No.: LE043-B-36-NW- Client Description: Transite Pipe **Facility:** 

Percent Asbestos:

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected **20** Chrysotile

**20** Crocidolite

**Analyst Observation:** Brown Pipe Material Lab No.: 7020429 **Location:** Client No.: LE043-B-37-NW- Client Description: Plastic Tubing Brown **Facility:** 

Percent Asbestos:

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020430 **Analyst Observation:** Grey Cement Product Location:

Client No.: LE043-B-38-NW- Client Description: Transite Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected **20** Chrysotile

**20** Crocidolite

**Analyst Observation:** Grey Cement Product **Location:** Client No.: LE043-B-39-NW- Client Description: Transite Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 20 Chrysotile 60

20 Crocidolite

Analyst:

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Laboratory Director Sarah Lipiecki

Approved By:

Frank E. Ehrenfeld, III

Dated: 6/17/2020 12:48:35 Page 9 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Location:

**Facility:** 

Project No.: 190075T

## PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7020432 **Analyst Observation:** Grey Tape Client No.: LE043-B-40-NW- Client Description: Mesh Tape

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected 25 Synthetic

**Lab No.:** 7020432(L2) Analyst Observation: Brown Debris **Location:** Client No.: LE043-B-40-NW- Client Description: Mesh Tape **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material: 15 Cellulose None Detected

Lab No.: 7020433 **Analyst Observation:** Blue Floor Tile Location: Client No.: LE043-B-41-SE-2 Client Description: Blue Tile **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 97.6 PC 2.4 Chrysotile

**Lab No.:** 7020433(L2) Analyst Observation: Brown Debris Location: Client No.: LE043-B-41-SE-2 Client Description: Blue Tile **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 10 Cellulose

**Lab No.:** 7020434 **Analyst Observation:** Grey Cement Product **Location:** Client No.: LE043-B-42-SE-2 Client Description: Transite Pipe **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected **20** Chrysotile

**20** Crocidolite

**Lab No.:** 7020435 **Analyst Observation:** White Laminate Location:

Client No.: LE043-B-43-SE-2 Client Description: Laminate **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

85 Cellulose None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Sarah Lipiecki Analyst:

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Dated: 6/17/2020 12:48:35 Page 10 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Project No.: 190075T

### PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7020436 Analyst Observation: Red/Grey/Brown Wrap Location: Client No.: LE043-B-44-SE-2 Client Description: Unknown Pipe Wrap **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

20 Cellulose None Detected

**Analyst Observation:** White Cement Product Lab No.: 7020437 **Location:** Client No.: LE043-B-45-SE-2 Client Description: Transite And Brick **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected **20** Chrysotile

**Lab No.:** 7020437(L2) Analyst Observation: White Brick Location: Client No.: LE043-B-45-SE-2 Client Description: Transite And Brick **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

**Lab No.:** 7020438 **Analyst Observation:** Brown/Silver Insulation Location: Client No.: LE043-B-46-SW- Client Description: Insulation **Facility:** 

2

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

15 Cellulose None Detected

**Lab No.:** 7020439 **Analyst Observation:** Red Brick **Location:** 

Client No.: LE043-B-47-SW- Client Description: Red Brick **Facility:** 

Percent Asbestos:

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

**Lab No.:** 7020439(L2) **Analyst Observation:** Brown Debris **Location:** 

Client No.: LE043-B-47-SW- Client Description: Red Brick **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material:

Percent Non-Fibrous Material:

10 Cellulose None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature:

Sarah Lipiecki Analyst:

Dated: 6/17/2020 12:48:35

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Page 11 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Project No.: 190075T

### PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7020440 **Analyst Observation:** White Insulation Location: Client No.: LE043-B-48-SW- Client Description: Cement Like Material **Facility:** 

Percent Non-Asbestos Fibrous Material: Percent Asbestos: Percent Non-Fibrous Material:

None Detected 5 Fibrous Glass

Lab No.: 7020441 **Analyst Observation:** Blue Ceramic **Location:** 

Client No.: LE043-B-49-SW- Client Description: Blue Tile **Facility:** 

Percent Asbestos:

Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected 100 None Detected

Lab No.: 7020442 **Analyst Observation:** White Ceramic **Location:** 

Client No.: LE043-B-50-SW- Client Description: Unknown, Ceramic Like **Facility:** 

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:

None Detected None Detected

Please refer to the Appendix of this report for further information regarding your analysis.

6/10/2020 Date Received:

06/16/2020 Date Analyzed:

Signature: Sarah Lipiecki Analyst:

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Fre Francisco

Dated: 6/17/2020 12:48:35 Page 12 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services Report Date: 6/16/2020

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Client: LRG308 Project No.: 190075T

# Appendix to Analytical Report

#### **Customer Contact:**

Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, and USEPA 600, R93-116 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com iATL Office Manager:wchampion@iatl.com iATL Account Representative: Shirley Clark Sample Login Notes: See Batch Sheet Attached Sample Matrix: Bulk Building Materials Exceptions Noted: See Following Pages

#### General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and ir our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

#### **Information Pertinent to this Report:**

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

#### **Certifications:**

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Dated: 6/17/2020 12:48:35 Page 13 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services Report Date: 6/16/2020

680 South Progress Ave 2A Report No.: 614712 - PLM Meridian ID 83642 Project: MHAFB LF043

Client: LRG308 Project No.: 190075T

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process) Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique - by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

#### **Disclaimers / Qualifiers:**

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at **customerservice@iatl.com**.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

#### **Recommendations for Vermiculite Analysis:**

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/1198\_8\_02\_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

1) Analytical Step/Method: Initial Screening by PLM, EPA 600R-93/116

**Requirements/Comments:** Minimum of 0.1 g of sample.  $\sim$ 0.25% for most samples.

Dated: 6/17/2020 12:48:35 Page 14 of 15



Email: customerservice@iatl.com

#### CERTIFICATE OF ANALYSIS

Client: The L & R Group - Technical Services

680 South Progress Ave 2A Meridian ID 83642

Client: LRG308

Report Date: 6/16/2020

Report No.: 614712 - PLM Project: MHAFB LF043

Project No.: 190075T

2)Analytical Step/Method: Wet Separation by PLM Gravimetric Technique, EPA R-04/004 Requirements/Comments: Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

3) Analytical Step/Method: Wet Separation by PLM Gravimetric Technique, EPA R-04/004 Requirements/Comments: Minimum 50g\*\* of dry sample. Analysis of "Floats" only.

4) Analytical Step/Method: Wet Separation by TEM Gravimetric Technique, EPA R-04/004 Requirements/Comments: Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004 **Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Suspension" only. \*With advance notice and confirmation by the laboratory.

Dated: 6/17/2020 12:48:35 Page 15 of 15

<sup>\*\*</sup>Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).



9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

# BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308	Batch Number:	614712
Customer:	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID	Project: Project Number: TAT:	MHAFB LF043 190075T 5 Day
Customer Rep:	Shirley Clark		
	/wha	Date/Time Recd:	06/10/2020 12:28 PM
# of Samples:	50 Analysis: PLM	Date/Time Due:	06/17/2020 5:00 PM
Client Notes:	N/A		
Lab Technician No	res: N/A		
Accounting Notes:	N/A		
Report Processing I	Notes: N/A		
,			
Shipping	France	Analysis Ac	knowledgement
	ere not received in a sealed container. Bulk samples not double	PLM	
bagged.	ere not received in a sealed container. Dutk samples not doubte		
Daggeu.	es received open in bagsample integrity compromised, possible		
contaminat			
Samples re	ceived wet.		
Samples re	ceived covered with dustpossible cross contamination.		
Sample co	ntainers damaged, contents spilledpossible cross contamination.		
Paperwork	received in the same bag as samples possible contamination.		
No / Incom	plete Chain of Custody Received.		
No / Incon	plete Sample Log Received.		
— Sample co	ntainer IDs do not match the client's sample log.		
No Turnar	ound Time indicated. rep for TEM NIOSH 7402. Cassettes previously opened and		
PCM Re-p	filter removed.	L	
portion of	not submitted as required by the requested analytical method.		
Minimum	shipping requirements not attained. See attached Carrier Air Bill.		
Batch Er		Login Error:	_
	ent ID Listed —	Sample Log Stamp	ed Incorrectly:
Wrong Cl	ient Location Listed	Sample Containers	
Wrong P	roject ID Listed	Duplicate / Extra S	
— Wrong Tu	rnAround Time Listed	Lab Technician B	ench Sheet Error
Wrong Du	ie Date Listed		
Wrong D	eate / Time Received Listed		
Wrong A	nalysis Method Listed		
Wrong Ni	imber of Samples Listed		

# Login

From:

Shirley Clark

Sent:

Tuesday, June 9, 2020 4:32 PM

To:

**PLM Requests** 

Subject:

Client Communication - The L & R Group - LRG308

	Client Communication		
Staff Member	Shirley		
Client Code	LRG308		
Client Name	The L & R Group		
Contact	Laurie Kuther		
Email	amianthus@aol.com		
Phone	208-813-6160		
Sample Type	PLM		
# of Samples	~ 50		
Date Samples Arriving	6/10/20		
Time Samples Arriving	AM		
Method of Arrival	Overnight Delivery		
Date/Time Results Requested 6/17/20			
Project Name			
Client Request/ Expectations	Email to Laurie		

×	**************************************

# Shirley Clark

Senior Accounts Manager International Asbestos Testing Laboratories, Inc. 9000 Commerce Parkway, Suite B Mt. Laurel, NJ 08054 P: 856 231-9449 ext. 1002

www.iatl.com

# Re: L and R Group, FYI

### Frank Ehrenfeld < frankehrenfeld@iatl.com>

Fri 5/22/2020 10:11 AM

Cc: Eric Snyder <ericsnyder@iatl.com>; Shirley Clark <shirleyclark@iatl.com>; Whitney Champion <wchampion@iatl.com>; Sarah Lipiecki <SLipiecki@iatl.com>; Mark Stewart <mstewart@iatl.com>; Patrick Carr <PCarr@iatl.com>

Login:

When package arrives from L&R (might have paperwork also from FPM Remidiation and/or US Army Corp Engineers with Project [USACE MHAFB LF043, UFP-QAPP]). Please carefully and cleanly stamp paperwork as Rec'd with clear rec'd initials and time. This is part of QAPP project and we will be under strict protocols: Please photograph image of package before opening, after opening with contents, and do not log in until I can see image please.

(1) Should be (~50) 200-500mL soil/building debris samples for PLM. Please assign to one analyst ONLY for duration of these samples (might be one more submittal in a few weeks. I recommend SL. (2) 10-13 PCM/TEM cassettes with high volumes (~3-5000L) and blank(s). Hold until I can see paperwork and samples. When logging in do not hide customer ID labels with iATL labels. Note filter color, condition, and loading before prep. Samples are to be completed by ISO10312 with some extra USEPA-like requirements. ONLY one TEM prepper (BR) and one TEM instrument (TEM I or II) and one analyst (MS or PC).

Let me know arrival and condition please.

Frank Ehrenfeld III
Laboratory Director – Vice President
Chair ASTM D2207
9000 Commerce Parkway,
Suite B
Mt. Laurel, NJ 08054
856 231-9449 P
(b) (6)

www.iatl.com

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From: Eric Snyder <ericsnyder@iatl.com> Sent: Friday, May 22, 2020 9:58 AM To: Shirley Clark <shirleyclark@iatl.com> Cc: Frank Ehrenfeld <frankehrenfeld@iatl.com>

Subject: L and R Group, FYI

Package set for FedEx delivery this morning from L&R



Eric M. Snyder

President

International Asbestos Testing Laboratories, Inc.

9000 Commerce Parkway, Suite B

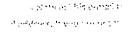
Mt. Laurel, NJ 08054

P: 856 231-9449

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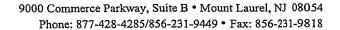


9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054 Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

# **Chain of Custody**

-Bulk Asbestos -

	Duik	ASUCSIUS —	
Contact Informa	tion_		
Client Company:	The L&R Group	Project Number:	190075T
Office Address:	680 S. Progress Ave.	Project Name:	MHAFB LF043
City, State, Zip:	Meridian, ID 83642	Primary Contact:	Laurie Kuther/L&R
Fax Number:		Office Phone:	208-813-7700
Email Address:	laurie@thelandrgroup.com	Cell Phone:	
PLM: Bulk Asbe PLM: Bulk Asbe PLM: Bulk Asbe PLM: Bulk Asbe	stos Building Materials EPA 600 R-93/stos Building Materials EPA 600 M-4/8 stos Building Materials NIOSH 9002, 1 stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA	2-020, 1982 985 LP 198.1, 2002 LP 198.6, 2010	
□ PLM: Point Counting □ PC: via ELAP 198.1 □ PC: 400 Points □ PC: 800 Points * □ PC: 1600 Points * □ PLM: Instructions for Multi-Layered Samples □ Analyze and Report All Separable Layers per EPA 600 □ Report Composite for Drywall Systems per NESHAP □ Report All Layers and Composite Where Applicable □ Only Analyze and Report Specifically Noted Layer  Special Instructions: □ AUP: by Homogenous Area as Noted □ AUP: by Material Type as Noted □ PLM: NOB via 198.6 □ PLM: Friable via EPA 600 2.3 □ If <1% by PLM, to TEM via 198.4 * □ If <1% by PLM, Hold for Instructions □ PLM: Non-Building Material **** □ PLM: Non-Building Material **** □ CARB 435			
* Additional c	harge and turnaround may be required ** Al	ternative Method (ex: EPA 600/R-0	04/004) may be recommended by Laboratory
Turnaround Time  Preliminary Results Requested Date:  Specific date / time  10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**  * End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***  Chain of Custody			
	/Organization): Laurig Kuther/L&R ATL): // / / / / / / / / / / / / / / / / /	Date: 6-8-20 Date:	Time: 1400



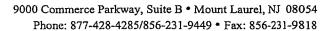


-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043

Sampling Date/Time: 6/4/2020-6/5/2020

Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes
LF043-B-01-NE-1	7020393	Tile/grout	
LF043-B-02-NE-1	7020394	Black rubber like material	
LF043-B-03-NE-1	7020395	Fiberboard	
LF043-B-04-NE-1	<b>702</b> 03 <b>9</b> 6	Insulation	
LF043-B-05-NE-1	7020397	Black rubber/plastic pipe	
LF043-B-06-NE-1	7020398	Foam	
LF043-B-07-NE-1	7020399	Fiberboard	
LF043-B-08-NE-1	7020400	Tile	
LF043-B-09-NE-1	7020401	Plastic pipe	
LF043-B-10-NE-1	<b>70</b> 20 <b>4</b> 02	Foam	
LF043-B-11-NE-1	7020403	Plastic pipe	
LF043-B-12-NE-1	<b>70</b> 20 <b>4</b> 04	Unknown Transite-like	
LF043-B-13-NE-1	7020405	Unknown plaster-like	
LF043-B-14-NE-1	<b>70204</b> 03	Asphalt	
LF043-B-15-NE-1	7020407	Tar coating on metal pipe	
LF043-B-16-NE-1	7020403	Black plastic	





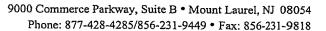
-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/202	0

	Bulk Asbestos Sample Log						
Client Sample #	iATL#	Location/Description	Notes				
LF043-B-17-NE-1	7020409	Painted fiberboard					
LF043-B-18-NE-1	7020410	foam with aluminum insulation					
LF043-B-19-NE-1	7020411	mastic on brick					
LF043-B-20-NE-1	7020412	ceramic tile					
LF043-B-21-NW-2	7020413	plastic					
LF043-B-22-NW-2	7020414	Roofing shingle					
LF043-B-23-NW-2	7020415	fibrous material with mastic					
LF043-B-24-NW-2	7020410	fibrous plastic					
LF043-B-25-NW-2	7020417	unknown, tile like					
LF043-B-26-NW-2	7020413	PVC pipe					
LF043-B-27-NW-2	7020419	Roofing shingle					
LF043-B-28-NW-2	7020420	Transite pipe					
LF043-B-29-NW-2	7020421	Transite pipe					
LF043-B-30-NW-2	7020422	Foam					
LF043-B-31-NW-2	7020423	unknown fibrous material					
LF043-B-32-NW-2	7020424	foam insulation					





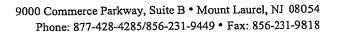




-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043	
Sampling Date/Time: 6/4/2020-6/5/2	020	_

	Bulk Asbestos Sample Log						
Client Sample #	iATL#	Location/Description	Notes				
LF043-B-33-NW-2	7020425	plastic tubing					
LF043-B-34-NW-2	7020428	plastic					
LF043-B-35-NW-2	7020427	tile with mastic					
LF043-B-36-NW-2	7020428	Transite pipe					
LF043-B-37-NW-2	7020429	Plastic tubing brown					
LF043-B-38-NW-2	7023430	Transite pipe					
LF043-B-39-NW-2	7020431	Transite pipe					
LF043-B-40-NW-2	7020432	Mesh tape					
LF043-B-41-SE-2	7020433	blue tile					
LF043-B-42-SE-2	7020434	Transite pipe					
LF043-B-43-SE-2	7020435	laminate					
LF043-B-44-SE-2	7020436	unknown pipe wrap					
LF043-B-45-SE-2	7020437	Transite and brick					
LF043-B-46-SW-2	7020438	Insulation					
LF043-B-47-SW-2	7020439	red brick					
LF043-B-48-SW-2	7020440	cement like material					





-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/202	20

Bulk Asbestos Sample Log								
Client Sample #	iATL#	Location/Description	Notes					
LF043-B-49-SW-2	7020441	blue tile						
LF043-B-50-SW-2	7020442	unknown, ceramic like						

2-6

Batch # 614712 -

Analyst: Sarah Lipiecki Date: 6/12/2020 Client ID: L&R group Station ID: 11 Reviewed By:\_\_\_\_\_

iATL# Client#	Color Material Type	% Asb	Asb	% NAsl	NAsb	% NF	Notes Optical Properties
7020393 LE043-B-01-N	Off-White [Ceramic		Nor <b>∨</b>		Nor <b>∨</b>	100	0 4 1.550       Yes 0
7020393(L2)	Grey Grout		Nor <b>∨</b>	3	Cell <b>∨</b>	97	0 4 1.550       Yes 0
7020394 LE043-B-02-N	Black [Fibrous		Nor <b>∨</b>	7	Cell <b>→</b>	93	0 4 1.550       Yes 0         und
7020395 LE043-B-03-N	Brown [Fiberboard		Nor <b>→</b>	80	Cell <b>∨</b>	20	0 4 1.550        Yes 0          und
7020396 LE043-B-04-N	Silver/Tan [Wrap / Insulation		Nor <b>∨</b>	2	Cell <b>∨</b>	98	LNS   0 4 1.550        No 0
7020397 LE043-B-05-N	Black ¡Pipe Material		Nor <b>✓</b>		Nor <b>✓</b>	100	
7020398 LE043-B-06-N	Yellow ¡Foam		Nor <b>✓</b>		Nor <b>→</b>	100	)   0 4 1.550        Yes 0  
7020399 LE043-B-07-N	Brown ¡Fiberboard		Nor <b>∨</b>	80	Cell <b>∨</b>	20	0 4 1.550       Yes 0

7020400 White Nor **→** Nor **→** 100

LE043-B-08-N[Floor Tile ||0|4|1.550|||||||||Yes|0|

7020401 White Nor **∨** Nor **∨** 100

LE043-B-09-N{Pipe Material ||0|4|1.550|||||||||Yes|0|

7020402 Yellow Nor ➤ Nor ➤ 100

LE043-B-10-N[Foam ||0|4|1.550||||||||Yes|0|

7020403 White Nor ✓ Nor ✓ 100

LE043-B-11-NEPipe Material ||0|4|1.550||||||||Yes|0|

1111111111

7020404 Grey 20 Chr ✓ 8 Cell ✓ 72

LE043-B-12-N[Cement Product ||0|4|1.550|K|N|L|+|0|1.547|1.555|Yes|0|

7020405 White Nor **∨** Nor **∨** 100

LE043-B-13-N[Stucco ||0|4|1.550||||||||Yes|0|

11111111111

7020406 Black Nor ➤ 5 Cell ➤ 95

LE043-B-14-N[Asphalt ||0|4|1.550||||||||Yes|0|

[[[][]]und[[

7020407 Black Nor ➤ Nor ➤ 100

LE043-B-15-N[Tar ||0|4|1.550||||||||Yes|0|

7020408 Black Nor ➤ Nor ➤ 100

LE043-B-16-N[Non-Fibrous ||0|4|1.550|||||||Yes|0|

**Analyst Batch Comments:** 

END OF SAMPLE LOG

Batch # 614712 -

Analyst: Sarah Lipiecki Date: 6/16/2020 Client ID: I&r group Station ID: 11

Reviewed By:\_\_\_\_\_

iATL# Client#	Color Material Type	% Asb	Asb	% NAst	NAsb	% NF	Notes Optical Properties
7020409 LE043-B-17-N	White µFiberboard		Nor <b>∨</b>	90	Cell <b>∨</b>	10	0 4 1.550        Yes 0         und
7020410 LE043-B-18-N	Silver ĮįWrap		Nor <b>∨</b>	10	Cell <b>∨</b>	90	0 4 1.550        Yes 0         und
7020410(L2)	Yellow Foam		Nor <b>∨</b>		Nor <b>∨</b>	100	0 4 1.550        Yes 0
7020411 LE043-B-19-N	Black IfMastic		Nor <b>∨</b>		Nor <b>∨</b>	100	0 4 1.550        Yes 0  
7020411(L2)	Off-White Mortar		Nor <b>∨</b>		Nor <b>∨</b>	100	)   0 4 1.550        Yes 0
7020412 LE043-B-20-N	Off-White ผูเCeramic		Nor <b>∨</b>		Nor <b>→</b>	100	)   0 4 1.550        Yes 0  
7020413 LE043-B-21-N	Off-White มู\Non-Fibrous		Nor <b>✓</b>		Nor <b>✓</b>	100	)   0 4 1.550       Yes 0  
7020414 LE043-B-22-N	Black มุ\Shingle		Nor <b>∨</b>	20	Fibr <b>∨</b>	80	0 4 1.550       Yes 0
7020415 LE043-B-23-N	Black NFibrous		Nor <b>✓</b>	80	Cell <b>∨</b>	20	0 4 1.550       Yes 0         und

7020415(L2)	Black		Nor <b>✓</b>		Nor 🕶	100	)
, ,	Mastic						0 4 1.550       Yes 0
7020416	Green		Nor 🕶	30	Fibr 🕶	70	
LE043-B-24-N	NFRP Sheeting						0 4 1.550       Yes 0
							so
7020416(L2)	Grey		Nor <b>✓</b>	20	Cell <b>∨</b>	80	
	Debris						0 4 1.550        Yes 0
							und
7020417	Tan/White		Nor <b>✓</b>		Nor <b>∨</b>	100	)
LE043-B-25-N	√Non-Fibrous						0 4 1.550        Yes 0
7020417(L2)	Black		Nor 🗸		Nor 🕶	100	)
	Non-Fibrous						0 4 1.550       Yes 0
7020418	White		Nor 🗸		Nor <b>✓</b>	100	
LE043-B-26-1	∖∖Pipe Material						0 4 1.550       Yes 0
							MANAGE
7020418(L2)	Brown		Nor 🕶	5	Cell <b>∨</b>	95	
	Debris						0 4 1,550        Yes 0
							und
7020419	Black		Nor 🕶	20	Fibr 🕶	80	
LE043-B-27-I	\\Shingle						0 4 1.550       Yes 0
							iso
7020420	Grey	20	Chrysc		Nor 🗸	60	Second Asb Type Opt Prop =
LE043-B-28-I	\\Cement Product	10	Amosit				1.680 s n m + 0 1.681 1.690
		10	Crocido				
							0 4 1.550 K N L + 0 1.549 1.557 Yes 0
							WILL COOL TO LIGHT COOL
							1.680 s n m + 0 1.681 1.690  
							1.680 s y m - 0 1.680 1.692
7020421	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-29-	N/Cement Product	10	Amosite				1.680 s n m + 0 1.687 1.692
		10	Crocido				
							0 4 1.550 K N L + 0 1.546 1.556 Yes 0
							1.680 s n m + 0 1.687 1.692
							1.680 s y m - 0 1.680 1.685

7020422 LE043-B-30-N	Blue ଏ\Foam		Nor <b>∨</b>	Nor <b>→</b>	100   0 4 1.550        Yes 0  
7020422(L2)	Tan Debris		Nor <b>∨</b> 5	Cell <b>∨</b>	95   0 4 1.550        Yes 0          und
7020423 LE043-B-31-1	Grey √\Fibrous	30	Chr <b>∨</b>	Nor <b>∨</b>	70   0 4 1.550 K N L + 0 1.547 1.555 Yes 0  
7020424 LE043-B-32-i	White/Silver NInsulation		Nor 🗸	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020425 LE043-B-33-I	White ∖∖Pipe Material		Nor 🕶	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020426 LE043-B-34-I	Blue NNon-Fibrous		Nor <b>→</b>	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020427 LE043-B-35-l	White ∧∖Floor Tile		Nor <b>∨</b>	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020427(L2)	Black Mastic	4.9	Chr <b>→</b>	Nor <b>∨</b>	95.1 4 82 0 4 1.550 K N L + 0 1.548 1.557 Yes 0
7020428 LE043-B-36-	Grey N\Cement Product	20 20	Chrysc Crocidc	Nor <b>∨</b>	60 Second Asb Type Opt Prop =     1.680 s y m - 0 1.681 1.686   0 4 1.550 K N L + 0 1.546 1.556 Yes 0
					0 4 1.536 1( 4 1 4 1.546 1.536 1.636 1                1.680 s y m - 0 1.681 1.686  
7020429 LE043-B-37-	Brown Ŋ∖Pipe Material		Nor <b>∨</b>	Nor <b>✓</b>	100   0 4 1.550       Yes 0  

0/2020		Daton	14/ 12 - Milai	y 3 t. Oc	ilan Lipico	N. Dui	0. d/ 10/2020
7020430	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-38-N	I\Cement Product	20	Crocido				1.680 s y m - 0 1.680 1.688
							0 4 1.550 K N L + 0 1.547 1.556 Yes 0                  1.680 s y m - 0 1.680 1.688  
7020431	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-39-N	NCement Product	20	Crocido				1.680 s y m - 0 1.682 1.690
							0 4 1.550 K N L + 0 1.547 1.557 Yes 0          1.680 s y m - 0 1.682 1.690
7020432	Grey		Nor <b>✓</b>	25	Syn 🗸	75	
LE043-B-40-N	ų∖Tape						0 4 1.550        Yes 0          und
7020432(L2)	Brown		Nor <b>→</b>	15	Cell <b>✓</b>	85	
	Debris						0 4 1.550        Yes 0         und
7020433	Blue	2.4	Chr 🗸		Nor <b>✓</b>	97	€
LE043-B-41-5	SEFloor Tile						4 164 0 4 1.550 K N L + 0 1.547 1.558 Yes 0  
7020433(L2)	Brown		Nor <b>✓</b>	10	Cell <b>∨</b>	90	
	Debris						0[4 1.550        Yes 0          und
7020434	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-42-9	SECement Product	20	Crocido				1.680 s y m - 0 1.682 1.690
							0 4 1.550 K N L + 0 1.547 1.557 Yes 0
							1.680 s y m - 0 1.682 1.690  
7020435	White		Nor 🗸	85	Cell <b>∨</b>	15	
LE043-B-43-	SELaminate						0 4 1,550        Yes 0         und
7020436	Red/Grey/Brown		Nor <b>→</b>	20	Cell <b>∨</b>	80	
LE043-B-44-	S[Wrap						0 4 1.550        Yes 0         und

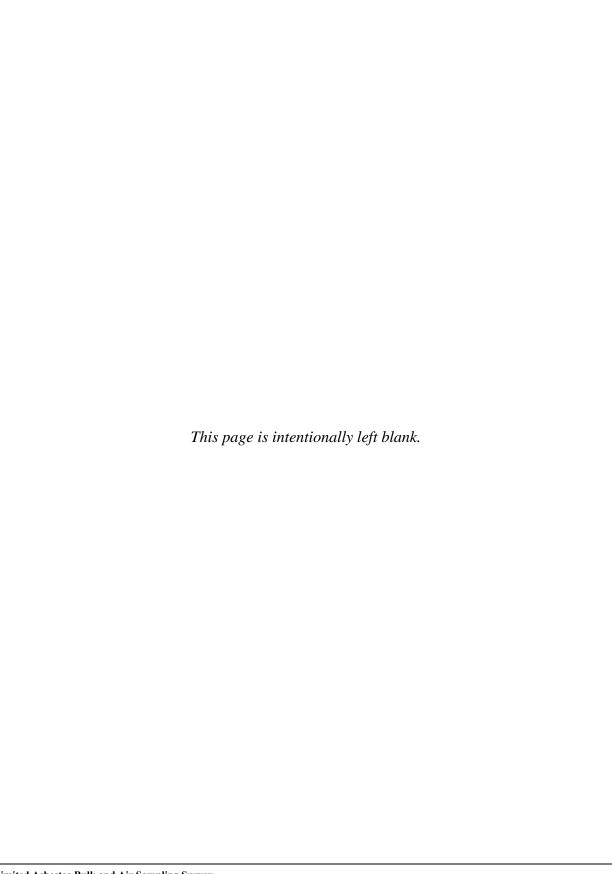
6/2020		Batch # 6	14712 - Anal	yst: S	arah Lipied	ki Dat	e: 6/16/2020
7020437	White	20	Chr 🕶		Nor 🗸	80	
LE043-B-45-S	SECement Product						0 4 1.550 K N L + 0 1.546 1.556 Yes 0  
7020437(L2)	White Brick		Nor <b>→</b>		Nor <b>✓</b>	100	)   0 4 1.550        Yes 0  
7020438 LE043-B-46-8	Brown/Silver Sylnsulation		Nor <b>∨</b>	15	Cell <b>∨</b>	85	0 4 1.550        Yes 0          und
7020439 LE043-B-47-5	Red S\Brick		Nor <b>∨</b>		Nor <b>∨</b>	100	)   0 4 1.550        Yes 0  
7020439(L2)	Brown Debris		Nor <b>∨</b>	10	Cell <b>∨</b>	90	0 4[1.550        Yes 0          und
7020440 LE043-B-48-9	White Sylnsulation		Nor <b>∨</b>	5	Fibr 🗸	95	0 4 1.550        Yes 0          so
7020441 LE043-B-49-	Blue SyCeramic		Nor <b>→</b>		Nor <b>∨</b>	10	0   0 4 1.550        Yes 0  
7020442 LE043-B-50-	White SVCeramic		Nor <b>✓</b>		Nor <b>∨</b>	10	0   0 4 1.550        Yes 0

Analyst Batch Comments: END OF SAMPLE LOG



**Appendix F: Air Sampling Coordinates** 

0



## Perimeter Air Sample Summary Table

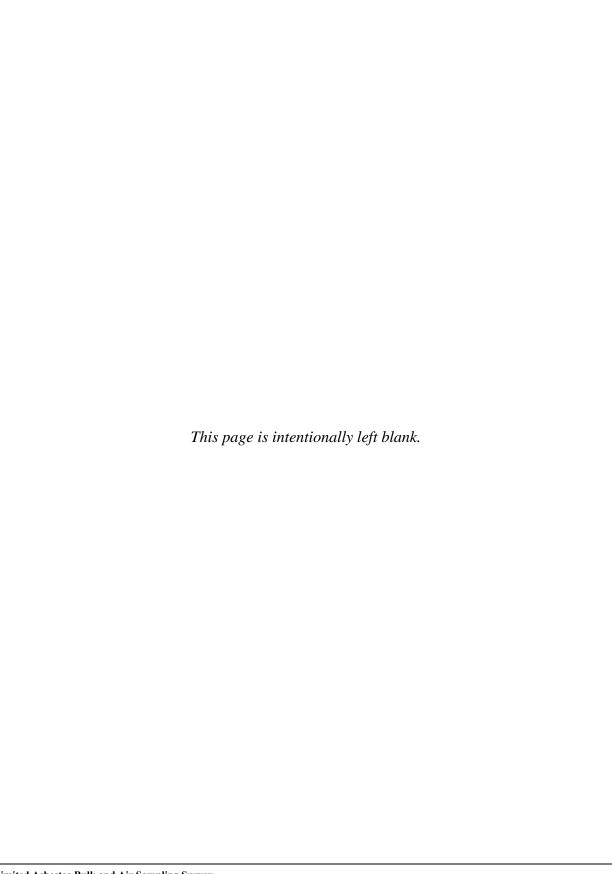
			ND = None Detected	
SAMPLE	LATITUDE	LONGITUDE	ASBESTOS STRUCTURES	RESULTS f/cc
LF043-A-01-SE-1	43.051364	-115.838285	ND	<0.000293
LF043-A-02-SE-1	43.052924	-115.836457	ND	<0.000293
LF043-A-03-NE-1	43.055962	-115.836488	ND	<0.000293
LF043-A-04-NE-1	43.058218	-115.83656	ND	<0.000293
LF043-A-05-NE-1	43.059957	-115.836604	ND	<0.000293
LF043-A-06-NW-1	43.060082	-115.838427	ND	<0.000293
LF043-A-07-NW-1	43.06001	-115.839848	ND	<0.000293
LF043-A-08-NW-1	43.058740	-115.840344	ND	<0.000293
LF043-A-09-NW-1	43.056889	-115.840274	ND	<0.000293
LF043-A-10-NW-1	43.055747	-115.839791	ND	<0.000293
LF043-A-11-SW-1	43.054546	-115.840229	ND	<0.000293
LF043-A-12-SW-1	43.052703	-115.840942	ND	<0.000293
LF043-A-13-N-1	43.061502	-115.840926	ND	<0.000293
LF043-A-14-B-1	field blank		ND	NA
LF043-A-15-B-1	field blank		ND	NA
LF043-A-16-SE-2	43.051364	-115.838285	ND	<0.000293
LF043-A-17-SE-2	43.052924	-115.836457	ND	<0.000293
LF043-A-18-NE-2	43.055962	-115.836488	1 Chrysotile	<0.000293
LF043-A-19-NE-2	43.058218	-115.83656	ND	<0.000293
LF043-A-20-NE-2	43.059957	-115.836604	ND	<0.000293
LF043-A-21-NW-2	43.060082	-115.838427	ND	<0.000293
LF043-A-22-NW-2	43.06001	-115.839848	ND	<0.000293
LF043-A-23-NW-2	43.058740	-115.840344	ND	<0.000293
LF043-A-24-NW-2	43.056889	-115.840274	ND	<0.000293
LF043-A-25-NW-2	43.055747	-115.839791	ND	<0.000293
LF043-A-26-SW-2	43.054546	-115.840229	ND	<0.000293
LF043-A-27-SW-2	43.052703	-115.840942	ND	<0.000293
LF043-A-28-N-2	43.061502	-115.840926	ND	<0.000293
LF043-A-29-B-2	field blank		ND	NA

# Perimeter Air Sample Summary Table (cont'd)

LF043-A-30-B-2	field blank		ND	NA
LF043-A-31-SE-3	43.051364	-115.838285	ND	<0.000293
LF043-A-32-SE-3	43.052924	-115.836457	ND	<0.000293
LF043-A-33-NE-3	43.055962	-115.836488	ND	<0.000293
LF043-A-34-NE-3	43.058218	-115.83656	ND	<0.000293
LF043-A-35-NE-3	43.059957	-115.836604	ND	<0.000293
LF043-A-36-NW-3	43.060082	-115.838427	ND	<0.000293
LF043-A-37-NW-3	43.06001	-115.839848	ND	<0.000293
LF043-A-38-NW-3	43.058740	-115.840344	ND	<0.000293
LF043-A-39-NW-3	43.056889	-115.840274	ND	<0.000293
LF043-A-40-NW-3	43.055747	-115.839791	ND	<0.000293
LF043-A-41-SW-3	43.054546	-115.840229	ND	<0.000293
LF043-A-42-SW-3	43.052703	-115.840942	ND	<0.000293
LF043-A-43-N-3	43.061502	-115.840926	ND	<0.000293
LF043-A-44-B-3	field blank		ND	NA
LF043-A-45-B-3	field blank		ND	NA



Appendix G: iATL Air Sample Analysis Reports and Chain of Custody





www.iatl.com

August 28, 2020

THE L & R GROUP – TECHNICAL SERVICES 680 South Progress Avenue 2A Meridian, ID 83642 Tel | 208 813 7700

**ATTENTION**: Laurie Kuther, Project Manager

**REFERENCE:** Mountain Home AFB, LRG Project No. 200050T and 190075T,

iATL Batches 617132, 617346, 617671, 614712

Laurie:

It was a pleasure to assist L and R in its recent project. Though we continue to be challenged in the laboratory by some of the logistical restrictions (ex. split shifts and physical barriers) introduced by C19, we were happy to be able to contribute to your project.

All data reports and Certificates of Analysis were filed in accordance with the batch ID and turn around specified. The client portal on our iTRACC LIMS always has archived reports in case you need to go back and download any specific test report.

This report details the items outlined in the QAPP for laboratory quality assurance. The attached reanalysis data, copies of logs, calibration data, and related items to satisfy the QAPP are also listed in tabular/checklist form. A Statement of Completion is also listed for attestation of compliance.

Let me know if you or your USACE team has any questions. We look forward to working with you in the future.

Regards,

Frank Ehrenfeld III

Fre Snamed

Laboratory Director – Vice President iATL

#### Contents:

Ehrenfeld Coverletter	p1
Contents	p2
Compliance Attestation	р3
QAPP Worksheet #28 – QA Samples Table (Bulk)	p4
Bulk QA Data Checklist and Narrative	p5
QAPP Worksheet #28 – QA Samples Table (Air)	р6
Air QA Data Checklist and Narrative	р7
QAPP Worksheet #24 – Analytical Instrument Calibration	р8
Calibration Checklist and Narrative	р9
Appendix: Copies of Data	p10

The Statement of Compliance relates to the analytical work completed by iATL in June, July, and August 2020 for the Mountain Home AFB, LRG Project No. 200050T and 190075T (iATL Batches 617132, 617346, 617671, 614712). Specifically, all sample receipt and handling requirements, archiving and storage, sample preparation and processing, sample analysis and data reporting, and subsequent Quality Assurance items have been completed in accordance with the specified analytical methods, our iATL SOPs, and the Quality Assurance Project Plan (QAPP) for this project. Related documentation of quality system compliance under our ISO17025:2017 accreditations (ex. AIHA LAP 100188, NIST NVLAP 101165, ELAP 11021) have been previously submitted.

Track Throughold III

Frank Ehrenfeld III Laboratory Director – Vice President iATL August 28, 2020

Cc:

Tiffany Lowe Quality Manager

Whitney Champion Operations Manager

Laura D'Ornellas Sample Manager

Benjamin Reich TEM Sample Preparation

Mark Stewart TEM Group Leader, Senior Analyst

Craig A. Liska TEM Senior Analyst

Sarah Lipiecki PLM Senior Analyst

Linda Price PLM Senior Analyst

Will Riffle PLM Senior Analyst

#### QAPP Worksheet #28 - QC Samples Table (Bulk)

Matrix		Bulk							
Analytical	Group	PLM							
Analytical Reference	Method/SOP l	USEPA 600/R-93/	USEPA 600/R-93/116/PLM .007						
QC Sample	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action2	Measurement Performance Criteria				
Method Blank	Daily use of non- ACM material	<0.25%	Determine the source of the contamination.	Analyst	Same as Method/SOP QC Acceptance Limits				
Intra- analyst reanalysis	2% of samples analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Inter- analyst Quality assurance	7% of sample analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, if need a tertiary analyst follows. Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Inter- laboratory Quality assurance	Quarterly	2-3x standard deviation	Inter Laboratory round robin and/or Proficiency Test participation.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Reference sample	Daily for alignment, qual, and quant.	Must meet established acceptance criteria	Reanalyze is misclassification.	Analyst	Same as Method/SOP QC Acceptance Limits				

#### Bulk Data Checklist and Narrative:

iATL received 50 bulk building material samples from LRG308 on June 10, 2020. Laura D'Ornellas, iATL Sample Manager inspected and logged in the samples as iATL Batch 614712. These samples were noted as received shipped and received in acceptable condition meeting USEPA 600 R93-116 requirements for sample volume and shipping integrity. The shipment contained an accurate chain of custody listing Project 190075T as Project Name MHAFB LF043. A Sample Log noting each sample's unique identification and description was in order. iATL unique sample identification numbers were attached to the samples and those numbers stamped on the Log.

Initial Sample Analysis, Sarah Lipiecki, June 12 and June 16, 2020 Secondary QA Sample Analysis, Linda Price, June 16, 2020 Secondary QA Sample Analysis, Will Riffle, August 25, 2020

#### Table #28 Bulk PLM

Sample	Analyst	Analyst	Analyst	QA Result
	1° (SL)	2° (LP)	2° (CR)	(+/-)
7020394	ND	NA	ND	+
7020398	ND	NA	ND	+
7020408	ND	NA	ND	+
7020401	ND	NA	ND	+
7020404	20	NA	20	+
7020426	ND	ND	NA	+
7020423	30	12	NA	+
7020413	ND	ND	NA	+
7020431	40	25	NA	+
7020440	ND	ND	NA	+

Results by USEPA 600 R93-116 in CVAE (%) or PC (%) Samples randomly selected for Intra/InterAnalyst QA ReAnalysis R-value Acceptance +, Rejection -

#### QA Checklist:

Analyst Logbooks	Completed/Attached
Method Blank	Completed/Attached
Intra and Inter Analyst Reanalysis Data (Table #28 Bulk – above)	Completed/Attached
Daily Reference Material Analysis	Completed/Attached
Daily Microscope Calibration/Alignment	Completed/Attached
Refractive Index Oil 1.550, 1.605, 1.680 -Calibrations Logs	Completed/Attached
Analyst InterLaboratory and/or PT Proficiency	Completed/Attached

# QAPP Worksheet #28 – QC Samples Table (Air)

Matrix		Air						
Analytical Gro	Analytical Group		Asbestos					
Analytical Method/SOP Referencel		ISO 10312:2019/TE	M.002	<del> </del>				
QC Sample Frequency/Number		Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action2	Project- Specific Measurement Performance Criteria			
Method Blank	5% of submitted samples	1 structure	Determine the source of the contamination. Clean equipment; prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits			
Field blank	10% of submitted samples	1 structure	Determine the source of the contamination.  Clean equipment; prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits			
Intra-analyst reanalysis	2% of samples analyzed per day	<5structures ± 1s; 5-20structures ± 2s; >20structures ± 3s or 3StDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Inter-analyst Quality assurance	7% of sample analyzed per day	<5structures ± 1s; 5-20structures ± 2s; >20structures ± 3s or 35tDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Inter- laboratory Quality assurance	Quarterly	2x standard deviation	Inter Laboratory Verification – Round Robin or Proficiency Test samples	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Reference sample	EDS Calibrations See Table W524	Must meet established acceptance criteria	Reanalyze after service call and within acceptable limits	Analyst	Same as Method/SOP QC acceptance limits			

#### Air Data Checklist and Narrative:

iATL received 45 air monitoring cassettes samples from LRG308 in three separate shipments on July 27, July 30, and August 6, 2020. Laura D'Ornellas, iATL Sample Manager inspected and logged in the samples as iATL Batches 617132, 617346, 617671. These samples were noted as received shipped and received in acceptable condition meeting ISO10312 requirements for shipping integrity. The shipment contained an accurate chain of custody listing Project 200050T as Project Name Mountain Home AFB. A Sample Log noting each sample's unique identification and description was in order (though collected sample volumes were checked and recalculated). iATL unique sample identification numbers were attached to the samples and those numbers stamped on the Log. No field blanks were included. iATL provided Laboratory Blanks for each batch. Required QA reanalysis and instrument calibrations were completed.

Sample Preparation, Ben Reich July 28, August 3, and August 6, 2020 Initial Sample Analysis, Mark Stewart, July 28, 29, 30, August 4, 5, 6, and August Secondary QA Sample Analysis, Craig Liska, July 28, 29, August 7 and 8, 2020

Table #28 Air TEM

Sample	Analyst 1° (MS)	Analyst 2	Analyst 2 °	Lab	QA Result
		° (MS)	(CL)	Blank <sup>(1)</sup>	(+/-)
617132 LB1	ND	NA	NA	ND	+
617132 LB2	ND	NA	NA	ND	+
7040575 Rep	ND	ND	NA	NA	+
7040585 Rep	ND	ND	NA	NA	+
7040574 Inter	ND	NA	ND	NA	+
7040584 Inter	ND	NA	ND	NA	+
617346 LB1	ND	NA	NA	ND	+
617346 LB2	ND	NA	NA	ND	+
7042315 Rep	ND	ND	NA	NA	+
7042326 Rep	ND	ND	NA	NA	+
617671 LB1	ND	NA	NA	ND	+
617671 LB2	ND	NA	NA	ND	+
7045849 Rep	ND	ND	NA	NA	+
7045859 Rep	ND	ND	NA	NA	+
7045850 Inter	ND	NA	ND	NA	+
7045860 Inter	ND	NA	ND	NA	+
7042317 Inter	1 chrys fiber at DL	NA	ND,	NA	+
	0.00029 s/cc		<0.00029 s/cc		
7042325 Inter	ND	NA	ND	NA	+

Results by ISO 10312 in s/cc, ND = None Detected, NA = Not Applicable 1, Fields Blanks not submitted, Lab Blanks None Detected at <7.7 s/mm<sup>2</sup> Samples randomly selected for Intra/InterAnalyst QA ReAnalysis R-value Acceptance +, Rejection -

#### QA Checklist:

Analyst Logbooks	Completed/Attached
Method Blank / Laboratory Blanks	Completed/Attached
Intra and Inter Analyst Reanalysis Data (Table #28 Air – above)	Completed/Attached
Routine Calibrations [EDS, SAED, Magnification]	Completed/Attached
Daily Microscope Calibration/Alignment	Completed/Attached
Analyst InterLaboratory and/or PT Proficiency	Completed/Attached

QAPP Worksheet #24 - Analytical Instrument Calibration

Instrument <sup>‡</sup>	Calibration Item	Calibration Range		Acceptance Criteria <sup>2</sup>	Corrective Action <sup>3</sup>	Title/position responsible for CA	Applicable SOP for
TEMI	Magnification Scale	0-40,000x	Annually	10%	Service Call	Quality Manager	TEM .002
TEMI	Working Magnification	20,000x	Quarterly	10%	Service Call	Quality Manager	TEM.002
TEM I	Camera Constant (SAED)	mm-nm	Monthly	10%	Service Call	Quality Manager	TEM.002
TEM I	Beam Dose (SAED)	Seconds	Monthly	30-60	Service Call	Quality Manager	TEM.002
TEM I	Beam Spot Size	250nm	Monthly	15%	Service Call	Quality Manager	TEM.002
EDS!	K Factors	1Kev - 10Kev	Annually	Sliding energy scale	Service Call	Quality Manager	TEM.002
EDSI	Energy Calibration Check	1KeV - 10KeV	Weekly	Al Ka, Cu Ka	Service Call	Quality Manager	TEM.002
EDS!	Resolution	Mn Ka	Monthly	75KeV FWHM	Service Call	Quality Manager	TEM.002
EDS I	Sensitivity	Na Ka	Monthly	3x SD	Service Call	Quality Manager	TEM.002
PLM	Refractive Index Oil	1.550-1.700	Receipt of new batch & quarterly	0.004	Reject Product	Quality Manager	PLM .007
PLM	Alignment	stage objectives optic axis polarizers	Daily check	RI colors and Ext Angle of SRM	Service Call	Analyst	PLM .007
Analytical Balance	Mass	NIST Class S-1 weights Troemmer Certification	Daily AutoCal prior to use	0.002 g	Monthly checks with weights. Sartorius Certification.	Analyst/Quality Manager	PLM .007
Muffle Furnace	Temperature	485oC	Monthly	5% range	Service Call	Quality Manager	PLM .007
NIST Traceable Digital Thermometers	Temperature	-1 - 101oC	Daily check	+/- 1oC	Replacement	Quality Manager	PLM .007
Grid Opening Calibrations	Area	0.112- 0.118mm	Receipt of batch	0.0130- 0.0134mm2	Revise calculations	Analyst	TEM
Low Temperature Asher (Plasma)	Gravimetry Loss % over time setting	5-15%	Monthly	5-15%	Adjust / recalibrate	Analyst	TEM

#### Instrument/Facilities/Equipment Calibrations

Daily instrument and prep/processing equipment logs are available and attached. Calibrations include units and acceptability ranges. All daily routine alignment, EDS energy scale, etc. noted in attached logs. Since no indirect preparations for bulk samples (ex. ELAP 198.4) or air samples (ex. ISO13794) were needed, the gravimetric calibrations of muffle furnace and analytical balance are not included. The annual k-factor study was also not included, especially since no asbestos minerals were detected.

Table #24 Analytical Instrument Calibrations

Instrument	Calibration	Range	Frequency	Corrective	QA Result
Equipment	Item	Studied	Check	Action	(+/-)
TEM	Mag Scale	0-40kX	Annually	NA	+
TEM	Analysis Mag	20kX	Quarterly	NA	+
TEM	Camera Constant	mm-nm	Monthly	NA	+
TEM	Beam Dose	Seconds	Monthly	NA	+
TEM	Spot Size	250nm	Monthly	NA	+
EDS	Energy Scale	1-10KeV	Weekly	NA	+
EDS	Resolution	Mn Ka	Monthly	NA	+
EDS	Sensitivity	Na Ka	Monthly	NA	+
PLM	RI Oil	See p 5	Product	NA	+
PLM	Alignment	Log	Daily	NA	+
TEM	Grid Opening	Log	Product	NA	+
TEM	LTA/PEA	Log	Monthly	NA	+

Product = calibrated upon receipt of product from vendor Acceptance +, Rejection -, by 40CFR763 Quality Assurance Calibration Specifications

#### QA Checklist:

All relevant log book entries and individual instrument calibrations noted above attached.





9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

#### BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308		Batch Number:	617132	
Customer:	The L & R Gro 680 South Pro Meridian ID	oup - Technical Services gress Ave 2A	ces Project: Mountain Home AFB Project Number: 200050T TAT: 5 Day		
Customer Rep:	Shirley Clark			·	
# of Commission	15	TENE 100 1021	Date/Time Recd:	07/27/2020 10:59 AM	
# of Samples:	13	Analysis: TEM - ISO 1031	2 Date/Time Due:	08/03/2020 5:00 PM	
Client Notes:	N/A				
Lab Technician Note	es: N/A Box	received in good condition, com	plately scaled L		
Accounting Notes:	N/A				
Report Processing N	otes: N/A				
		.0003			
Shipping <b>E</b>	Error:		Analysis A	cknowledgement	
	re not received in	n a sealed container. Bulk samples not doub	ole TEM Prep		
bagged. Air Cassette	s received onen i	in bagsample integrity compromised, pos-	.,,		
contamination		m oagsample integrity compromised, pos	TEM - ISO 10:	312	
Samples rece					
		ith dustpossible cross contamination.		1	
Sample cont	ainers damaged,	contents spilledpossible cross contamina me bag as samples possible contamination.	tion.		
		inte dag as samples possible contamination. istody Received.			
	lete Sample Log		1	į.	
Sample cont	ainer IDs do not	match the client's sample log.			
	ınd Time indicat				
		SH 7402. Cassettes previously opened and			
portion of fil		quired by the requested analytical method.	Lab Blank prepared w	the samples I reates. L	
— Minimum sh	i suoimmeu as re iinning requirem	ents not attained. See attached Carrier Air l	Bill	The state of the s	
	ppgoqunom	one not attained. See attached Carrier Air 1	200 x # 701	ith samples. Logatedin 6 1 in Gridslats 61 & 6	
Batch Erro			Login Error:		
Wrong Clien			Sample Log Stamp	ed Incorrectly:	
	t Location Liste	d	Sample Containers		
	ect ID Listed			amples Not Stamped	
	Around Time Li	sted	Lab Technician Be	•	
Wrong Due			Lao Toomilotan Bo	Short Milds	
	e / Time Receiv				
	ysis Method List ber of Samples L				
wrong mum	oei oi pampies t	risien			

#### Login

From:

Frank Ehrenfeld

Sent:

Tuesday, July 21, 2020 2:16 PM

To:

Login

Subject:

FW: MHAFB TEM samples

Hold upon arrival for inspection and documentation. Thanks  $\Rightarrow$  opposed by FE 7/27

From: Laurie Kuther < laurie@Irenviro.com>

Sent: Tuesday, July 21, 2020 2:08 PM

To: Shirley Clark <shirleyclark@iatl.com>; Frank Ehrenfeld <frankehrenfeld@iatl.com>

Subject: MHAFB TEM samples

Hi there! They have started the sample collection and will be picking the samples up tomorrow. I am thinking that you should see the samples either Thursday or Friday, depending on how late it is when they pick the samples up. This will be the case for the next two weeks as well.

#### Thanks!



### AURICKUTHER

Laboratory Manager Environmental Professional

#### Office Address:

680 South Progress Avenue, Suite 2A Meridian, Idaho 83642

Office: 208-813-7700

Email: laurie@lrenviro.com













#### CONFIDENTIALITY NOTICE:

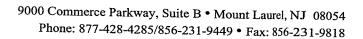
This email is intended only for the personal and confidential use of the individual(s) named as recipient(s) and is covered by the Electronic Communications Privacy Act, 18 U.S.C.2510-2521. It may contain information that is confidential and protected from disclosure under applicable law. If you have received this email in error, please notify the sender and delete this message from your computer. Do not forward, copy or disclose its contents.



# Chain of Custody -Airborne Asbestos –

Contact Inform	ation		
Client Company:	The L&R Group	Project Number:	200050T
Office Address:	680 S. Progress Ave.	Project Name:	Mountain Home AFB
City, State, Zip:	Meridan, ID, 83642	<b>Primary Contact:</b>	Laurie Kuther
Fax Number:		Office Phone:	208.813.7700
Email Address:	laurie@lrenviro.com	Cell Phone:	
Matrix/Method:			
☐ PCM: NIOSI	H 7400		
☐ PCM: OSHA			
☐ TEM: NIOSI			
	A 40 CFR 763		
TEM: ISO 10			,
☐ TEM: ISO 13			
tillet			
Special Instructi	ons:		
Turnaround Tin	<u>ae</u>	grainining	Europed Squoond
Preliminary Results Re	quested Date:Specific date / time	Verba	I   Email   Fax
<b>a</b> 1	0 Day 5 Day 3 Day 2 Day	] 1 Day*	Hour** RUSH**
		•	
* End of next l	ousiness day unless otherwise specified. ** N	Matrix Dependent. ***Please no	otify the lab before shipping***
Chain of Custod	Y		The second of th
	.e/Organization): L&F/Group	Date: 7/22/2020	Time: 15:30
Received (Name / i	ATL): 1/27/206	loiish Date:	Time:
Sample Login (Nar		***************************************	Time:\
Analysis(Name(s) / QA/QC Review (N		10130AmDate:	Time:
	d: QA/QC InterLAB Use:	Date: Date:	Time:
	and XX 7/28/2	a 6:21AM	A TON /

Celebrating more than 30 years...one sample at a time www.iatl.com





# Sample Log

-Airborne Asbestos -

Client:	_&R	Gr	ou	p
---------	-----	----	----	---

Project: 200050T

Sampling Date/Time: 7/21/2020

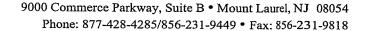
Client Sample #	iATL#	Location/ Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results
01	7040574	LR-043	7LPM	1250-0035			
02	7040575	LR-043	7LPM	1257-0042	687min	4800L	
03	7040576	LR-043	7LPM	1301-0046	687min	4800L	
04	7040577	LR-043	7LPM	1306-0051	687min	4800L	
05	7040578	LR-043	7LPM	1309-0054	687min	4800L	
06	7040579	LR-043	7LPM	1313-0058	687min	4800L	
07	7040580	LR-043	7LPM	1339-0124	687min	4800L	
08	7040581	LR-043	7LPM	1346-0131	687min	4800L	
09	7040582	LR-043	7LPM	1353-0138	687min	4800L	
10	7040583	LR-043	7LPM	1402-0147	687min	4800L	
11	7040584	LR-043	7LPM	1409-0154	687min	4800L	
12	7040585	LR-043	7LPM	1418-0203	687min	4800L	
13	7049588	LR-043	7LPM	1335-0120	687min	4800L	
14	7040587	LR-043	7LPM	1341-0126	687min	4800L	
15 *= Insufficient Sample	7040588  Provided to Perform OC Reana	LR-043	7LPM	1341-0134	687min	4800L	

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

<sup>\*\* =</sup> Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible

FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.





# Sample Log

-Airborne Asbestos -

Client:	L	& F	7	G	r	0	u	p	
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Project: 200050T

Sampling Date/Time: 7/21/2020

Client Sample #	iATL#	Location/ Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results
01	7040574	LR-043	7LPM	1250-0035	687min	4800L	4935
02	7040575	LR-043	7LPM	1257-0042	687min	4800L	4935
03	7040576	LR-043	7LPM	1301-0046	687min	4800L	4935
04	7040577	LR-043	7LPM	1306-0051	687min	480ÖL	4935
05	7040578	LR-043	7LPM	1309-0054	687min	4800L	4135
06	7040579	LR-043	7LPM	1313-0058	687min	4800L	4935
07	7040580	LR-043	7LPM	1339-0124	687min	4800L	4935
08	7040581	LR-043	7LPM	1346-0131	687min	4800L	9935
09	<b>704</b> 0582	LR-043	7LPM	1353-0138	687min	4800L	4935
10	7940583	LR-043	7LPM	1402-0147	687min	4800L	4935
11	7040581	LR-043	7LPM	1409-0154	687min	4800L	4935
12	7040585	LR-043	7LPM	1418-0203	687min	4800L	4935
13	7040588	LR-043	7LPM	1335-0120	687min	4800L	4735
14	7040587	LR-043	7LPM	1341-0126	687min	4800L	1935
15	7040588	LR-043	7LPM	1341-0134	687min	4800L	4991

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

<sup>\*\* =</sup> Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible
FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.

Client Name		The L	. & R Group - 7	Fechnical Serv	rices	Analysis Date:		IATL Sample #	
Client Project Sample Type		ISO 1	18312 Ambian	t Air Data	rmination of Asb	07/30/20		Client Sample #	***************************************
QC Submitts		130	10512, Ambien	t All Detel	mination of ASD	estos ribres		IATL Grid Box # Grid Archive ID #	
†AEM ID:	III		JEOL, JEM-1	230, EM1844	0033 EVEX	(		Ond Alchive ID#	. <u> </u>
	Prim	ary Fil	ter Dia. (mm²):	25		ary Filter Dia. (mm²):	n/a		
			ry EFA (mm²):		•	econdary EFA (mm²):	n/a	-	
			ary Filter Type:	MCE	•	Secondary Filter Type:		Manui@antinu	20.0007
P	rimary		Pore Size (µm):	0.8	•	Filter Pore Size (µm):	n/a	Magnification	
<u> </u>					·			Accelerating Voltage	100KeV
			(	Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	0	Liters
				pening Area:	$0.0130 \text{ mm}^2$				-
		Grid	Openings Read		10	Minim	um Detection Limit:	NA	s/cc
			Total A	rea Analyzed:	0.130 mm <sup>2</sup>	A	nalytical Sensitivity:	7.69	s/mm^2
P .	1		-	7100	, No.				
Primary	/ Total	Asbes	stos Structures:	NSD	/ NSI	Non-	Asbestos Structures:	NSD	-
			0.5 - 5.0 μm:	NSI NSI					
			>5.0µm: Asbestos:		<del></del> .		N		
			Asbestos:		7.7 s/mm² NA s/cc		Non-Asbestos:	·	- s/mm²
			713003103.		3/00		Non-Asbestos:	NA	s/cc
Γ	Place "	v" in ho	x if analysis "on-	hald"				Fraction of collection filter ashed	*****
	•		x if overloaded (					Volume (mls) used for ash dispersal	10
L	riace	x in oo	x ir overloaded (3	>25%)	Analy	sis Data		Volume of dispersion filtered	
	-	Γ.,	I	Length	Width			* (pcr) = possib	le cleavage fragmen
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
	-Ż	<u>L</u>	BMC	μ	μ			TON-ASDESIOS	or Comments*
GI GI		ļ	NSD						
G2			NSD						
G3			NSD						
G4			NSD						
G5			NSD						
G6			NSD						
G7			NSD						
G8			NSD						
G9			NSD						
G10			NSD						
							***************************************	**************************************	
	0	0						0	
† Must confi	rm by N	Iorphol	ogy, SAED, and	EDXA for each	suspect asbestos fil	ber		Prep Quality:	
Record visi	ble pror	ninent (	Chrysotile DP ref	lections (002 ,0	04, 110, 130, 220,	200)		Dissolution	Good
*** Characteriz	pnibole e bv FF	(UP Ob	tained Y/N). Prin	t-out EDS and AEM (Analyt	attach. ical Electron Micros	scone)		Carbon Film	Good
			ENTATION MAR	)	Siedion Micros	,,		Loading	<1%
Comments:								Analyzed By: Reviewed By:	M. Stewart



					· · · · · · · · · · · · · · · · · · ·		-		
Client Name		The I	. & R Group - 7	Fechnical Serv	<u>/ices</u> Aı	nalysis Date:		IATL Sample #:	LB
Client Proje	et #:					07/30/20		Client Sample #:	LB
Sample Typ	e:	ISO	10312, Ambien	it Air Dete	rmination of Asbest	tos Fibres	-	IATL Grid Box #:	2071
QC Submitt								Grid Archive ID #:	
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-1	230, EM1844	0033 EVEX				<u></u>
	Prim	ary Fil	ter Dia. (mm²):			y Filter Dia. (mm²):	n/a		
			ry EFA (mm²):		-			•	
			ary Filter Type:		•	ondary EFA (mm²):		•	
,					•	ondary Filter Type:		Magnification:	
l-	rimary	Filter F	Pore Size (µm):	0.8	Secondary Fil	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
				Grid Opening:	0.115 mm	Vol	ume of Air Sampled:	0	Liters
				opening Area:		٧٥١١	unic of All Sampleu.	V	LIICIS
		C		-	****				
		Gna	Openings Read	-			num Detection Limit:	NA	s/cc
			Total A	rea Analyzed:	0.130 mm <sup>2</sup>	A	analytical Sensitivity:	7.69	s/mm^2
Primary	/ Total	Asbes	stos Structures:		/ NSD	Non-	-Asbestos Structures:	NSD	
			0.5 - 5.0 μm:		***************************************				•
			>5.0µm:	NS	D				
			Asbestos:	<	7.7 s/mm <sup>2</sup>		Non-Asbestos:	< 7.7	s/mm²
			Asbestos:		NA s/cc		Non-Asbestos:	NA	s/cc
		······						Fraction of collection filter ashed	0.25
	Place "	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	
	Place "	x" in bo	x if overloaded (	>25%)	A W	. 15.		Volume of dispersion filtered	40
	_				Analys	is Data			e cleavage fragment
Grid	Pr	-	Structure F	Length	Width				μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	ŀ
ļ	<del>                                     </del>	<del>  _</del> _							or Comments*
G3 J3		<del> </del>	NSD						
J4		<del> </del>	NSD						
J5	ļ	ļ	NSD						
J6	<u> </u>	<u> </u>	NSD						
J7	<u> </u>		NSD						
13			NSD						
14			NSD						
15			NSD						
I6			NSD						
17			NSD						
	<b>†</b>								
	<u> </u>					1			
	<del>                                     </del>	<b>-</b>							
	<del>                                     </del>	<del>                                     </del>							
	<del> </del>	├			***************************************				
	<del> </del>	<del> </del>							
	<b></b>	-							
		<del> </del>							
		<u> </u>							
	ļ	<u> </u>							
	<u> </u>				*****				
	0.	0						0	
† Must conf	irm by N	/lorphol	ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:	
Record vis	sible pro	minent	Chrysotile DP ref	flections (002 ,0	004, 110, 130, 220, 200	0)		Dissolution	Good
** Define An  *** Characteri	nphibole	(DP ob	tained Y/N). Prin	nt-out EDS and	attach.	>		Carbon Film	Fair
			ENTATION MAI	AEIVI (Anaiyt	ical Electron Microsco	pe)		Loading	<1%
Comments:				·				Analyzed By: Reviewed By:	M. Stewart



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:		roup - Technical Ser az Way Suite 104	vices	Project: Project No.:	Mountain Home AFB - Rep. 200050T - Batch # 617132	licates	
Client No.:	Meridian II LRG308	)		Turn-Around Time:	:	5 Days	
Client Contacts	s:		Laborato	ry Contacts:			
Contacts:			Contacts:	Frank E. Ehrenfeld III			
Phone:			Phone:	(856) 231-9449			
Fax:			Fax:	(856) 231-9818			
Cell/Pager:			Cell/Pager:	(b) (6)			
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>		
Chain of Custo	dy:						
Samples Taken in	Field:	L&R Group	Date:	7/22/20	Time:		
Samples Rec'd at l	Laboratory:	L. D'Ornellas	Date:	7/27/20	Time:	10:15 AM	
Samples Prepped:		B. Reich	Date:	7/28/20	Time:	6:21 AM	
Samples Analyzed	:	M. Stewart	Date:	7/30/20	Time:	11:00 AM	
Preliminary Result	s Faxed:		Date:		Time:		
Preliminary Result	s E-Mail:		Date:		Time:		
	IS	6O 10312, Ambient	Transmission	mary Data Electron Microscopy of Asbestos Fibres,	y Direct Transfer (ISO 10312	(i)	
Client	IATL	Volume	1Primary Ashestos	Total	_	4,6 Results	5,6Results

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structures	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
2-Rep	7040575R	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
12-Rep	7040585R	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all Instrument (I, II, III): III structures >5 \text{µm in length.}

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



							1		
Client Name:		The L	& R Group - T	echnical Serv	ices Ar	nalysis Date:		IATL Sample #:	7040575R
Client Projec					<u> </u>	07/30/20		Client Sample #:	2-Rep
Sample Type QC Submitta		ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #: Grid Archive ID #:	2072 Q2Q4
†AEM ID:			JEOL, JEM-12	230 FM18440	0033 EVEX			Old Alchive ID #.	<u>Q2Q4</u>
AEM ID.			er Dia. (mm²):	25		Filter Dia. (mm²):	n/a		
				385	-				
			y EFA (mm <sup>2</sup> ): ry Filter Type:	MCE		ondary EFA (mm <sup>2</sup> ): ondary Filter Type:	n/a	Magnification:	20,000X
D.	T						n/a	Accelerating Voltage:	20,000X 100KeV
PI	ппагу г	Ther P	ore Size (μm):	0.8	Secondary Fil	ter Pore Size (µm):	n/a	Accelerating voltage:	100KeV
				Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters
			Grid o	ppening Area:	$0.0130 \text{ mm}^2$				
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Aı	rea Analyzed:	$0.273 \text{ mm}^2$	A	nalytical Sensitivity:	3.66	s/mm^2
				•			•		•
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	5	
			0.5 - 5.0 μm:	NSI					
			>5.0μm:	NSI					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	18.3	.s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00147	s/cc
								Fraction of collection filter ashed:	0.25
	Place "x	" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40
	Place "x	c" in box	x if overloaded (	>25%)	Analys	is Data		Volume of dispersion filtered:	10
		1				Is Data	<u> </u>	* (pct) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	ary	al	ВМС	μm	μm	Chrysothe	Ampinbole	Non-Aspestos	or Comments*
Q2 D10			NSD						
D9			MF	1.5	0.15			SiAl - Other Fiber	
D8			NSD						
D7			NSD						
D6			В	3.5	0.7			SiAl - Other Fiber	
D5			NSD						
D4			F	3.5	0.6			SiAl - Other Fiber	
D3			NSD						
D2			NSD						
D1			MF	1.5	0.2			SiAl - Other Fiber	
E1			NSD						
Q4 E1			NSD						
E2			NSD						
E3			NSD						
E4			NSD						
E5			NSD						
E6			NSD						
E7			F	4	0.4			SiAl - Other Fiber	
E8			NSD						
E9			NSD						
E10			NSD						
	0	0						5	
	-	-			suspect asbestos fiber			Prep Quality:	
			Chrysotile DP re: tained Y/N). Prii		004, 110, 130, 220, 20 attach	U)		Dissolution Carbon Film	Good Good
*** Characteriz					attach. ical Electron Microsco	ppe)		Loading	7%
SEE REVERSE	: FIBE	R ORIE	ENTATION MAI	P				-	
Comments:								Analyzed By: Reviewed By:	



Client Name:		The I	& R Group - T	Technical Serv	ices A	Analysis Date:	1	IATL Sample #:	7040585R
Client Projec		THE L	& K Gloup - 1	ecillical Serv	ices P	07/30/20		Client Sample #:	12-Rep
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of Asbe		1	IATL Grid Box #:	
QC Submitta			,					Grid Archive ID #:	Q6Q8
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Seconda	ry Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Sec	condary EFA (mm²):	n/a	•	
		Prima	ry Filter Type:	MCE	Se	condary Filter Type:	n/a	Magnification:	20,000X
Pr	imary I	Filter P	ore Size (μm):	0.8	Secondary F	ilter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
				Grid Opening:	0.115 mm	Vol	ume of Air Sampled:	4809	Liters
				opening Area:	$0.0130 \text{ mm}^2$	VOI	unic of All Sampled.	4009	- Liters
		Grid (	Ond C Openings Read		21 mm	Minim	D.44: I ::4.	0.0003	s/cc
		GHu (		rea Analyzed:	$\frac{21}{0.273}$ mm <sup>2</sup>		num Detection Limit: analytical Sensitivity:	3.66	s/mm^2
			1 Oldi Ai	ica Allalyzcu.	0.273 mm		marytical Schsitivity.	3.00	5/11111 2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	-Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSI	)	<del>_</del>			-
			>5.0μm:	NSI	)				
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 3.7	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
								Fraction of collection filter ashed:	0.25
			x if analysis "on-					Volume (mls) used for ash dispersal:	10
	Place "x	c" in bo	x if overloaded (	>25%)	Analy	sis Data		Volume of dispersion filtered:	
i -		I		T4h		1	<u> </u>	* (pcf) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length µm	Width µm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Ţ	=	ВМС	μш	, m	, , , , , , , , , , , , , , , , , , , ,			or Comments*
Q6 C1			NSD						
B1			NSD						
B2			NSD						
B3			NSD						
B4 B5			NSD NSD						
B6			NSD						
B7			NSD						
B8			NSD						
В9			NSD						
B10			NSD						
Q8 H10			NSD						
Н9			NSD						
H8			NSD						
H7			NSD						
Н6			NSD						
H5			NSD						
H4			NSD						
Н3			NSD						
H2			NSD						
H1			NSD						
	0	0						0	
	-	-			suspect asbestos fib 004, 110, 130, 220, 2			Prep Quality: Dissolution	Good
			tained Y/N). Prii			.00)		Carbon Film	Good
*** Characteriz	ze by EI	OS	ŕ	T AEM (Analyt	ical Electron Micros	cope)		Loading	2%
SEE REVERSE	: FIBE	K ORII	ENTATION MAI	P					
Comments:								Analyzed By:	
								Reviewed By:	



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R G	roup - Technical Services		Project:	Mountain Home AFB		
	1859 S. Top	az Way Suite 104		Project No.:	200050T - Batch # 61713	32	
	Meridian II	)					
Client No.:	LRG308			Turn-Around Time:		5 Days	
Client Contac	ts:		Laborator	y Contacts:			
Contacts:			Contacts:	Frank E. Ehrenfeld III			
Phone:			Phone:	(856) 231-9449			
Fax:			Fax:	(856) 231-9818			
Cell/Pager:			Cell/Pager:	(b) (6)			
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>		
	adv.		E-Mail:	frankehrenfeld@jatl.co	<u>m</u>		
E-Mail:  Chain of Cust Samples Taken in		L&R Group	E-Mail:	frankehrenfeld@iatl.co	m Time:		
Chain of Cust	n Field:	L&R Group L. D'Ornellas					
Chain of Cust Samples Taken in	n Field: t Laboratory:		Date:	7/22/20	Time:	10:15 AM	
Chain of Cust Samples Taken in Samples Rec'd at	n Field: t Laboratory: l:	L. D'Ornellas	Date:	7/22/20 7/27/20	Time:	10:15 AM 6:21 AM	
Chain of Cust Samples Taken in Samples Rec'd at Samples Prepped	n Field: t Laboratory: l: ed:	L. D'Ornellas B. Reich	Date: Date: Date:	7/22/20 7/27/20 7/28/20	Time:	10:15 AM 6:21 AM 10:30 AM	

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
01	7040574	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
02	7040575	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
03	7040576	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
04	7040577	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
05	7040578	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
06	7040579	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air	
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):
structures >5 µm in length.	_

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

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#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R G	oup - Technical Services		Project:	Mountain Home AFB			
	1859 S. Top	az Way Suite 104		Project No.:	200050T -	200050T - Batch # 617132		
	Meridian II	)						
Client No.:	LRG308			Turn-Around Time:	5 Days			
Client Contacts:			Laborator	y Contacts:				
Contacts:			Contacts:	Frank E. Ehrenfeld III				
Phone:			Phone:	(856) 231-9449				
Fax:			Fax:	(856) 231-9818				
Cell/Pager:			Cell/Pager:	(856) 727-8904				
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>			
Chain of Custod	ly:							
Samples Taken in F	ield:	L&R Group	Date:	7/22/20		Time:		
Samples Rec'd at La	aboratory:	L. D'Ornellas	Date:	7/27/20	<u>-</u>	Time:	10:15 AM	
Samples Prepped:		B. Reich	Date:	7/28/20	_	Time:	6:21 AM	
Samples Analyzed:		M. Stewart	Date:	7/29/20	_	Time:	7:20 AM	
Preliminary Results	Faxed:		Date:		-	Time:		
Preliminary Results	E-Mail:		Date:		-	Time:		

**Summary Data** 

# Transmission Electron Microscopy ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc
07	7040580	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
08	7040581	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
09	7040582	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
10	7040583	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7040584	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
12	7040585	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7040586	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

SD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2071
lusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	-	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
tructures >5μm in length.	-	

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Gro	up - Technical Services		Project:	Mountain Home AFB	
	1859 S. Topaz	Way Suite 104		Project No.:	200050T - Batch # 61713	2
	Meridian ID					
Client No.:	LRG308			Turn-Around Time:		5 Days
Client Contacts:	1		Laborator	y Contacts:		
Contacts:			Contacts:	Frank E. Ehrenfeld III		
Phone:			Phone:	(856) 231-9449		
Fax:			Fax:	(856) 231-9818		
Cell/Pager:			Cell/Pager:	(856) 727-8904		
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>	
Chain of Custod	ly:					
Samples Taken in F	Field:	L&R Group	Date:	7/22/20	Time:	
Samples Rec'd at L	aboratory:	L. D'Ornellas	Date:	7/27/20	Time:	10:15 AM
Samples Prepped:	_	B. Reich	Date:	7/28/20	Time:	6:21 AM
Samples Analyzed:		M. Stewart	Date:	7/30/20	Time:	7:40 AM
Preliminary Results	Faxed:		Date:		Time:	<u> </u>
Preliminary Results	E-Mail:		Date:		Time:	
Į <del>.</del>			Sum	mary Data		
		Т		Electron Microscopy	y	

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structures	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc
14	7040587	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
15	7040588	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA

iSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2071
lusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.		
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air	I	
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
tructures >5μm in length.	1	

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



Client Name:		The L	& R Group - T	echnical Serv	ices Ai	nalysis Date:		IATL Sample #:	7040574	
Client Projec		100.1	0212 4 11			07/28/20	J	Client Sample #:	01	
Sample Type QC Submitta	ıl:	180 1	0312, Ambien	t Air Deter	mination of Asbest	tos Fibres		IATL Grid Box #: Grid Archive ID #:	2071 A1A3	
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX					
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	y Filter Dia. (mm²):	n/a			
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a			
		Prima	ry Filter Type:	MCE	Sec	ondary Filter Type:	n/a	Magnification:	20,000X	
Pı	rimary l	Filter P	ore Size (µm):	0.8	Secondary Fil	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
			C	Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters	
Grid opening Area: 0.0130 mm <sup>2</sup>										
		Grid (	Openings Read	· - · ·	21		num Detection Limit:	0.0003	s/cc	
			Total A	rea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	2		
			0.5 - 5.0 μm:	NSI	)	_			•	
			>5.0µm:	NSI	)					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	7.3	s/mm²	
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00059	s/cc	
	-							Fraction of collection filter ashed:	0.25	
	Place "2	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40	
	Place "2	x" in bo	x if overloaded (	>25%)	Analys	is Data		Volume of dispersion filtered:	40	
i e		_	<u> </u>		•	15 Data		* (pcf) = possibl	e cleavage fragment	
Grid	Primary	Total	Structure F	Length	Width µm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID	
Opening ID	ury	2	ВМС	μm	μm	Cirysothe	rimpinoote	Tion risbestos	or Comments*	
A1 B5			NSD							
В6			NSD							
B7			NSD							
B8			NSD							
B9			NSD							
B10			F	1.5	0.1			CaS - Gypsum		
D10			NSD							
D9			NSD							
D8			F	1	0.15			SiAl - Other Fiber		
D7			NSD							
D6			NSD							
A3 E5			NSD							
E4			NSD							
E3		-	NSD							
E2		-	NSD							
E1		$\vdash$	NSD							
G1		$\vdash$	NSD							
G2		$\vdash$	NSD							
G3		$\vdash$	NSD							
G4		$\vdash$	NSD							
G5		$\vdash$	NSD							
	0	0						2		
† Must conf			ogy, SAED. and	EDXA for each	suspect asbestos fiber	r		Prep Quality:		
Record vis	sible pro	minent (	Chrysotile DP re	flections (002,0	004, 110, 130, 220, 20			Dissolution	Good	
			tained Y/N). Prin			a)		Carbon Film	Good	
*** Characteris			ENTATION MAI		ical Electron Microsco	ope)		Loading	8%	
Comments:		OMI	iioiv iviAi	=				Analyzed By:	M. Stewart	
								Reviewed By:		



Client Name:		The L	& R Group - T	echnical Serv	ices An	alysis Date:	]	IATL Sample #:	7040575		
Client Projec		THE L	ce ic Group 1	cennical Sci v	ices 741	07/28/20		Client Sample #:	02		
Sample Type	:	ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres	1	IATL Grid Box #:	2071		
QC Submitta								Grid Archive ID #:	A5A7		
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX						
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a				
			y EFA (mm²):	385		ondary EFA (mm <sup>2</sup> ):	n/a				
			ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X		
Pı	rimary l	Filter P	ore Size (μm):	0.8	Secondary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV		
			(	Grid Opening:	0.115 mm	Volu	ame of Air Sampled:	4809	Liters		
Grid opening Area: 0.0130 mm <sup>2</sup>											
		Grid (	Openings Read		21	Minim	um Detection Limit:	0.0003	s/cc		
				rea Analyzed:	$\frac{1}{0.273}$ mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2		
									•		
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1			
			0.5 - 5.0 μm:	NSI							
			>5.0μm:	NSI				2.5			
			Asbestos:		3.7 s/mm <sup>2</sup> 0.00029 s/cc		Non-Asbestos:	3.7 0.00029	s/mm²		
			Asbestos:		0.00029 s/cc		Non-Asbestos:		s/cc		
	Dlace "s	r" in ho	x if analysis "on-	hold"				Fraction of collection filter ashed: Volume (mls) used for ash dispersal:	0.25		
			x if overloaded (>					Volume (fills) used for asit dispersal.  Volume of dispersion filtered:	40 40		
	I lace 2	X III 002	x ii overloaded (>	2370)	Analysi	is Data			e cleavage fragment		
Grid	Pri	Т	Structure F	Length	Width		**	***	μgraph/EDS ID		
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*		
A5 F6			NSD								
F7			NSD								
F8			NSD								
F9			NSD								
F10			NSD								
D10			NSD								
D9			F	2	0.4			CaS - Gypsum			
D8			NSD								
D7			NSD								
D6			NSD								
D5			NSD			-					
A7 E5 E4			NSD NSD			<del> </del>					
E4 E3			NSD								
E2			NSD								
E1			NSD								
C1			NSD								
C2			NSD								
С3			NSD								
C4			NSD								
C5			NSD								
	0	0	0.1==	DDVI -				1			
	-	-			suspect asbestos fiber 004, 110, 130, 220, 200			Prep Quality: Dissolution	Good		
** Define Am	phibole	(DP ob	tained Y/N). Prin	nt-out EDS and	attach.			Carbon Film	Good		
*** Characteriz			ENTATION MAI		cical Electron Microsco	ppe)		Loading	8%		
	. PIDE	A OKIE	ATATION MAI	•					Mag		
Comments:								Analyzed By: Reviewed By:	M. Stewart		



Client News		T1 I	0 D.C T	C1	:	li- D-4	1	IATI C	7040576		
Client Name: Client Project		Ine L	& R Group - T	ecnnical Serv	ices Ar	07/28/20		IATL Sample #: Client Sample #:	7040576		
Sample Type		ISO 1	0312. Ambien	t Air Deter	mination of Asbest		I	IATL Grid Box #:			
QC Submitta		1501	oo12, minoren	t Am Deter	illiation of Aspest	os Fibres		Grid Archive ID #:	A9B2		
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX						
		ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a				
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a				
			ry Filter Type:	MCE		ondary Filter Type:		Magnification:	20,000X		
Pi	rimary l		ore Size (µm):	0.8	Secondary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV		
				3.10	0.115	37.1	CA: C 1.1	4000	т:,		
Grid Opening: 0.115 mm Volume of Air Sampled: 4809 Liters											
Grid opening Area: 0.0130 mm <sup>2</sup>											
		Grid (	Openings Read		21		num Detection Limit:	0.0003	s/cc		
			I otal Ai	rea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2		
Primary	/ Total	Achos	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1			
Tilliary	/ Total	Asucs	0.5 - 5.0 μm:	NSI	<u>'</u>	_	risocsios structures.				
			>5.0μm:	NSI							
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	3.7	s/mm²		
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00029	s/cc		
								Fraction of collection filter ashed:	0.25		
	Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40		
	Place ":	x" in bo	x if overloaded (	>25%)	Analys	is Data		Volume of dispersion filtered:	40		
-					Analys	is Data		* (pcf) = possibl	e cleavage fragment		
Grid	Primary	Total	Structure F	Length	Width	l tar a	**	***	μgraph/EDS ID		
Opening ID	hary	fal	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*		
A9 B5			NSD								
В6			NSD								
В7			NSD								
В8			NSD								
В9			NSD								
B10			F	3	0.5			CaS - Gypsum			
D10			NSD								
D9			NSD								
D8			NSD								
D7			NSD								
D6			NSD								
D5			NSD								
B2 D5			NSD								
D4			NSD								
D3		-	NSD								
D2			NSD			-					
D1			NSD								
B1		-	NSD								
B2		-	NSD			+					
B3 B4			NSD NSD			1					
104			מפוז			<del> </del>					
	0	0						1			
† Must conf			ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:			
Record vis	sible pro	minent (	Chrysotile DP re	flections (002,0	004, 110, 130, 220, 20			Dissolution	Good		
			tained Y/N). Prin			una)		Carbon Film	Good		
*** Characteri SEE REVERSI			ENTATION MAI		tical Electron Microsco	ppe)		Loading	8%		
Comments:								Analyzed By:	M. Stewart		
Comments.								Reviewed By:	IVI. DICWAIL		



Client Name	:	The L	& R Group - T	echnical Serv	ices An	alysis Date:	]	IATL Sample #:	7040577	
Client Projec	et #:					07/28/20		Client Sample #:	04	
Sample Type QC Submitta		ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #: Grid Archive ID #:	2071 B4B6	
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX					
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a			
		Primar	y EFA (mm²):	n/a						
		Prima	ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X	
P	rimary l	Filter P	ore Size (µm):	0.8	Secondary Filt	er Pore Size (μm):	n/a	Accelerating Voltage:	100KeV	
			C	rid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters	
Grid opening Area: 0.0130 mm <sup>2</sup>										
		Grid (	Openings Read	/ (Required):	21	Minim	num Detection Limit:	0.0003	s/cc	
			Total Ar	ea Analyzed:	$0.273  \text{mm}^2$	A	nalytical Sensitivity:	3.66	s/mm^2	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	5		
			0.5 - 5.0 μm:	NSI	)	=	•		•	
			>5.0µm:	NSI	)					
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	18.3	s/mm²	
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00147	s/cc	
								Fraction of collection filter ashed:	0.25	
	Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40	
	Place "	x" in bo	x if overloaded (>	>25%)	Analysi	is Data		Volume of dispersion filtered:	40	
-					Anarysi	is Data		* (pcf) = possibl	e cleavage fragment	
Grid Opening ID	Primary	Total	Structure F B M C	Length µm	Width µm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID or Comments*	
	્ર			r-	•	1			or Comments	
B4 H6			NSD	1.5	0.2					
H5			F	1.5	0.2			CaS - Gypsum		
H4			NSD							
H3			NSD	2.7	0.5					
H2			F	3.7	0.5			CaS - Gypsum		
H1			NSD							
F1			NSD							
F2			NSD							
F3			NSD							
F4			NSD							
F5			NSD							
B6 E5			NSD							
E4	-	-	NSD	1 0	0.2			CoS C		
E3	-	-	MF	1.8	0.2			CaS - Gypsum		
E2	$\vdash$		NSD							
E1	$\vdash$	-	NSD	0.7	0.1			CoS C		
G1 G2	$\vdash$		MF NSD	0.7	0.1			CaS - Gypsum		
G2 G3	<del>                                     </del>		NSD NSD							
G3 G4		-	NSD							
G5	<del>                                     </del>		NSD F	3.1	0.5			SiAl - Other Fiber		
43	$\vdash$		Г	3.1	0.3			SIAI - OHIET FIDET		
	0	0						5		
† Must conf			ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:		
Record vis	sible pro	minent (	Chrysotile DP ref	flections (002,0	004, 110, 130, 220, 200			Dissolution	Good	
			tained Y/N). Prir			<b>n</b> o)		Carbon Film	Good	
*** Characteri			ENTATION MAI		ical Electron Microsco	pe)		Loading	6%	
Comments:	- 1.51	. 51111						A m-1 1 D	M Starrent	
Comments.								Analyzed By: Reviewed By:	M. Stewart	



Client Name:		The L	& R Group - T	echnical Serv	ices A	Analysis Date: 07/28/20	]	IATL Sample #:	7040578
Client Project					Client Sample #:	05			
Sample Type: QC Submittal	:	ISO 1	0312, Ambien	t Air Deter		IATL Grid Box #: Grid Archive ID #:	2071 B8B10		
†AEM ID: I	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Seconda	ry Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Se	condary EFA (mm²):	n/a		
Primary Filter Type: MCE Secondary Filter Type: n/a							n/a	Magnification:	20,000X
Pri	mary I	ilter P	ore Size (μm):	0.8	Secondary F	ilter Pore Size (μm):	n/a	Accelerating Voltage:	100KeV
			C	4809	Liters				
				•					
		Grid (	Openings Read	/ (Required):	21	Minim	num Detection Limit:	0.0003	s/cc
			Total A	rea Analyzed:	$0.273 \text{ mm}^2$		nalytical Sensitivity:	3.66	s/mm^2
									•
Primary /	Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSI					
			>5.0μm:	NSI				0.5	, ,
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:		.s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
	D1 "		1	1 110				Fraction of collection filter ashed:	0.25
			x if analysis "on-					Volume (mls) used for ash dispersal: Volume of dispersion filtered:	40
ŀ	Place "x	" in bo	x if overloaded (	>25%)	Analy	sis Data		•	40 e cleavage fragment
Codd	P	J	Ct	Length	Width				μgraph/EDS ID
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*
B8 D5			NSD						
D4			NSD						
D3			NSD						
D2			NSD						
D1			NSD						
B1			NSD						
B2			NSD						
В3			NSD						
B4			NSD						
B5			NSD						
B6			NSD						
B10 A6			NSD						
A7			NSD						
A8			NSD						
A9			NSD						
A10			NSD						
C10			NSD						
C9			NSD						
C8			NSD						
C7			NSD						
C6			NSD						
	0	0						0	
† Must confir	m by N	Iorphol	ogy, SAED, and	EDXA for each	suspect asbestos fil	per		Prep Quality:	
Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)									Good
	Beine ramphiotic (Br. totalinea 1774). That our EBS and actaon.								Good
*** Characterize SEE REVERSE:					icai electron Micros	copej		Loading	1%
Comments:							Analyzed By: Reviewed By:	M. Stewart	



Client Name:		The L	& R Group - T	echnical Serv	ices Ar	nalysis Date:		IATL Sample #:	7040579	
•	lient Project #: 07/28/20						I	Client Sample #:	2071	
Sample Type QC Submitta	l:							IATL Grid Box #: Grid Archive ID #:	2071 C1C3	
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX					
Primary Filter Dia. (mm²): 25 Secondary Filter Dia. (mm²): n/a										
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a			
		Prima	ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X	
Pı	rimary l	Filter P	ore Size (μm):	0.8	Secondary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
Grid Opening: 0.115 mm Volume of Air Sampled: 4809 Liter										
Grid opening Area: 0.0130 mm <sup>2</sup>										
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc	
			Total Aı	rea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD		
1 11111111	, 1000	120000	0.5 - 5.0 μm:	NSI	)	-			•	
			>5.0µm:	NSI						
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 3.7	s/mm²	
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc	
								Fraction of collection filter ashed:	0.25	
	Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40	
	:		x if overloaded (>			· D /		Volume of dispersion filtered:	40	
			`	,	Analys	is Data		* (pcf) = possibl	e cleavage fragment	
Grid	Pri	T	Structure F	Length	Width	_	**	***	μgraph/EDS ID	
Opening ID	Primary	Total	B M C	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*	
C1 F5			NSD			1				
F6			NSD							
F7			NSD							
F8			NSD							
F9			NSD							
F10			NSD							
H10			NSD							
Н9			NSD							
H8			NSD							
H7			NSD							
H6			NSD							
C3 I5			NSD							
I4			NSD							
I3			NSD			1				
I2			NSD							
I1			NSD							
G1			NSD							
G2			NSD							
G3			NSD							
G4			NSD			1				
G5			NSD			1				
						1				
	0	0						0		
† Must conf	irm by N	Morphol	ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:		
Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)									Good	
	** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS  T AEM (Analytical Electron Microscope)								Good 8%	
			ENTATION MAI		Tear Election Microsco	.P~)		Loading	070	
Comments:								Analyzed By:	M. Stewart	
Commence.								Reviewed By:	Stewart	



Client Name:		The L	& R Group - T	echnical Serv	ices An	nalysis Date: 07/29/20		IATL Sample #: Client Sample #:	7040580 07	
Sample Type	•							IATL Grid Box #:	2071	
	QC Submittal:							Grid Archive ID #:	C5C7	
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX					
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a			
		Primar	y EFA (mm²):	385	Seco	ndary EFA (mm²):	n/a			
			ry Filter Type:	MCE	•	ondary Filter Type:	n/a	Magnification:	20,000X	
Pı	rimary I		ore Size (µm):	0.8		ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
		4809	Liters							
Grid Opening: 0.115 mm Volume of Air Sampled: 4809 Liters  Grid opening Area: 0.0130 mm <sup>2</sup>										
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc	
			Total Ar	ea Analyzed:	$0.273 \text{ mm}^2$		nalytical Sensitivity:	3.66	s/mm^2	
	/			NGD	/ NSD	N	A 1	2		
Primary	/ Total	Asbes	tos Structures:	NSD	,	Non-	Asbestos Structures:			
			0.5 - 5.0 μm: >5.0μm:	NSI NSI						
			Asbestos:		$\frac{3}{3.7}$ s/mm <sup>2</sup>		Non-Asbestos:	7.3	s/mm²	
			Asbestos:		0.00029 s/cc		Non-Asbestos:	0.00059	s/cc	
			TISOCSIOS.		<u> </u>		Tron Tiboches.	Fraction of collection filter ashed:	0.25	
	Place "y	c" in box	x if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	40	
	•		x if overloaded (>			_		Volume of dispersion filtered:	40	
	I face 2	V III 002	t ii overloaded (*	2370)	Analysi	is Data			e cleavage fragment	
Grid	Pr	Т	Structure F	Length	Width		**	***	μgraph/EDS ID	
Opening ID	Primary	Total	B M C	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*	
C5 G5			NSD			1				
G6			NSD							
G7			NSD							
G8			NSD							
G9			NSD							
G10			NSD							
E10			NSD							
E9			NSD							
E8			NSD							
E7			NSD							
E6			NSD							
C7 G5			NSD							
G4 G4			NSD							
G3			NSD							
G2			NSD							
G2 G1			NSD							
II			NSD							
I2			NSD							
I3			NSD			1				
I4			NSD			1				
I5			F	4.5	0.15			CaS - Gypsum		
1.5			F	1.2	0.13	1		SiAl - Other Fiber		
	0	0	•	1.2	Ü.E			2		
† Must conf			ogy, SAED. and	EDXA for each	suspect asbestos fiber			Prep Quality:		
Record vis	Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)								Good	
	** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS  TAEM (Analytical Electron Microscope)								Good	
			ENTATION MAI		iicai electron iviicrosco	pe)		Loading	8%	
Comments:								Analyzed By:	M. Stewart	
Connicies.								Reviewed By:	m. siewan	



Client Name:								IATL Sample #:	7040581
Client Project						07/29/20		Client Sample #:	08
Sample Type: QC Submittal:	:	ISO 1	0312, Ambien	t Air Deter	IATL Grid Box #: Grid Archive ID #:	2071 C9D2			
†AEM ID: I	II		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ry Filt	er Dia. (mm²):	25	Seconda	ary Filter Dia. (mm²):	n/a		
	]	Primar	y EFA (mm²):	385	Se	condary EFA (mm²):	n/a		
	Primary Filter Type: MCE Secondary Filter Type: n/a								20,000X
Prir	mary F	ilter P	ore Size (µm):	0.8	Secondary F	Filter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	Grid Opening:	0.115 mm	Volu	ame of Air Sampled:	4809	Liters
			Grid o	pening Area:	$0.0130 \text{ mm}^2$				•
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	$0.273 \text{ mm}^2$		nalytical Sensitivity:	3.66	s/mm^2
D: /	T . 1		4 64 4	NSD	/ NSD	Non	Asbestos Structures:	NSD	•
Primary /	I otal .	Aspesi	tos Structures: 0.5 - 5.0 μm:	NSI			Aspestos Structures.	NoD	
			>5.0μm:	NSI					
			Asbestos:		$\frac{3}{3.7}$ s/mm <sup>2</sup>		Non-Asbestos:	< 3.7	s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
								Fraction of collection filter ashed:	0.25
P	Place "x	" in box	x if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	40
			x if overloaded (>			sis Data		Volume of dispersion filtered:	40
¹	iacc x	111 002	t ii overioaded (>		e cleavage fragment				
Grid	7	Structure F Length Width						* / *	μgraph/EDS ID
Opening ID	Primary	Total	B M C	μm	μm	† Chrysotile	**Amphibole	****Non-Asbestos	or Comments*
	`		NCD			1			
C9 I5 I4			NSD NSD						
I3			NSD						
12			NSD						
I1			NSD						
G1			NSD						
G2			NSD						
G2 G3			NSD						
G3 G4			NSD						
G5			NSD						
G6			NSD						
<del> </del>									
D2 D5 D4			NSD NSD						
D4 D3			NSD						
D3			NSD NSD						
D1 B1			NSD NSD						
B1 B2			NSD NSD						
B2 B3			NSD						
B3 B4			NSD						
B4 B5			NSD						
DJ			עטע						
	0	0						0	
† Must confir			ogy, SAED, and	EDXA for each	suspect asbestos file	per		Prep Quality:	
	-	-			004, 110, 130, 220, 2			Dissolution	Good
** Define Amp	hibole	(DP ob	tained Y/N). Prir	nt-out EDS and	attach.			Carbon Film	Good
*** Characterize SEE REVERSE:					tical Electron Micros	scope)		Loading	4%
SEE REVEROE.									
Comments:	FIDE	K OKIL	ANTATION MAI	r				Analyzed By:	M. Stewart



Client Name:	,	The L	& R Group - T	echnical Serv	rices Ar	nalysis Date:	 ]	IATL Sample #:	7040582	
Client Projec		1110 12	or it oroup 1		111	07/29/20		Client Sample #:	09	
Sample Type	:	ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres	•	IATL Grid Box #:	2071	
QC Submitta								Grid Archive ID #:	D4D6	
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440						
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a			
			y EFA (mm²):	385		ondary EFA (mm <sup>2</sup> ):				
			ry Filter Type:	MCE	•	ondary Filter Type:		Magnification:	20,000X	
Pı	rimary l	Filter P	ore Size (µm):	0.8	Secondary File	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
	Grid Opening: 0.115 mm Volume of Air Sampled: 4809 Liters									
				ppening Area:	$0.0130 \text{ mm}^2$		•		-	
		Grid (	Openings Read		21	Minim	num Detection Limit:	0.0003	s/cc	
				rea Analyzed:	${0.273}$ mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2	
									•	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD		
			0.5 - 5.0 μm:	NSI	)	_				
			>5.0µm:	NSI						
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:		s/mm²	
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	.s/cc	
	1 .							Fraction of collection filter ashed:	0.25	
	•		x if analysis "on-					Volume (mls) used for ash dispersal:	40	
	Place "	x" in bo	x if overloaded (>	Volume of dispersion filtered:  * (nef) = nessibl	40 e cleavage fragment					
6.11	٦.		G F	Length	Width			(per) possion	μgraph/EDS ID	
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*	
	٧	<del>                                     </del>		·	-	1			or comments	
D4 C6			NSD							
C5			NSD							
C4 C3			NSD NSD							
C2			NSD							
C1			NSD							
E1			NSD							
E2			NSD							
E3			NSD							
E4			NSD							
E5			NSD							
D6 F5			NSD							
F4			NSD							
F3			NSD							
F2			NSD							
F1			NSD							
D1			NSD							
D2			NSD							
D3			NSD							
D4			NSD							
D5			NSD							
	0	0						0		
	-	-			suspect asbestos fiber			Prep Quality:	G3	
			Chrysotile DP re: tained Y/N). Prii		004, 110, 130, 220, 200 attach.	U)		Dissolution Carbon Film	Good Good	
*** Characteri	ze by EI	OS	Í	T AEM (Analyt	tical Electron Microsco	ope)		Loading	2%	
SEE REVERSE	E: FIBE	R ORIE	ENTATION MAI	P						
Comments:								Analyzed By:	M. Stewart	
								Reviewed By:		



Client Name: Client Project #:	The L & R Group - Technical Services  Analysis Date:  #:  07/29/20						IATL Sample #: Client Sample #:	7040583 10	
Sample Type:	ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres	ı	IATL Grid Box #:	2071	
QC Submittal:							Grid Archive ID #:	D8D10	
<sup>†</sup> AEM ID: III		JEOL, JEM-12	230, EM18440	0033 EVEX					
Prima	ary Filte	er Dia. (mm²):	25	Secondary	Filter Dia. (mm <sup>2</sup> ):	n/a			
	Primar	y EFA (mm²):	385		ndary EFA (mm²):	n/a			
		ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X	
Primary I	Filter Po	ore Size (µm):	0.8	Secondary Filt	er Pore Size (μm):	n/a	Accelerating Voltage:	100KeV	
			rid Opening:	0.115 mm	Volu	ame of Air Sampled:	4809	Liters	
			pening Area:						
	Grid C	Openings Read		21		um Detection Limit:	0.0003	s/cc	
		Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2	
Primary / Total	Asbest	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1		
		0.5 - 5.0 μm:	NSI	)					
		>5.0μm:	NSI						
		Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	3.7	s/mm²	
		Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00029	s/cc	
Dl "-	1	. :C l	1.411				Fraction of collection filter ashed:	0.25	
		x if analysis "on-l					Volume (mls) used for ash dispersal:	40	
Place "X	Place "x" in box if overloaded (>25%)  Analysis Data  Volume of dispersion filtered: 40  * (pcf) = possible cleavage fr								
Grid :	1	Structure F	Length	Width			* / *	μgraph/EDS ID	
Grid Final Opening ID	Total	B M C	μm	μm	† Chrysotile	**Amphibole	****Non-Asbestos	or Comments*	
D8 G6		NSD							
G5		NSD							
G4		F	1	0.2			CaS - Gypsum		
G3		NSD					**		
G2		NSD							
G1		NSD							
E1		NSD							
E2		NSD							
E3		NSD							
E4		NSD							
E5		NSD							
D10 F5		NSD							
F4 F3		NSD NSD							
F3 F2		NSD							
F1		NSD							
H1		NSD							
H2		NSD							
Н3		NSD							
H4		NSD							
H5		NSD							
	(	CAED :	EDV4 C	1			1		
	-			suspect asbestos fiber 004, 110, 130, 220, 200			Prep Quality: Dissolution	Good	
** Define Amphibole	(DP obt	tained Y/N). Prir	nt-out EDS and	attach.			Carbon Film	Good	
*** Characterize by EI SEE REVERSE: FIBE				ical Electron Microsco	pe)		Loading	5%	
Comments:	ONIL	- IIIION MAI					Analyzed By: Reviewed By:	M. Stewart	



Client Name:								IATL Sample #:	7040584
Client Projec	t #:					07/29/20		Client Sample #:	11
Sample Type QC Submitta		ISO 1	0312, Ambien	t Air Deter	IATL Grid Box #: Grid Archive ID #:	2071 E1E3			
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Seco	ndary EFA (mm²):	n/a		
			ry Filter Type:	MCE		ondary Filter Type:	n/a	Magnification:	20,000X
Pr	rimary I		ore Size (µm):	0.8	•	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			C	Grid Opening:	0.115 mm	Volu	ame of Air Sampled:	4809	Liters
			Grid o	pening Area:	$0.0130 \text{ mm}^2$				•
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total A	rea Analyzed:	$\frac{1}{0.273}$ mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
	1			NGD	/ NSD	N.	A 1	NSD	•
Primary	/ Total	Asbes	tos Structures:	NSD NSI	<u>'</u>	Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm: >5.0μm:	NSI					
			Asbestos:		$\frac{3}{3.7}$ s/mm <sup>2</sup>		Non-Asbestos:	< 3.7	s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
			11000000		<u> </u>		110111110001	Fraction of collection filter ashed:	0.25
	Place "s	r" in hor	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	
	•		x if overloaded (>		Analys			Volume of dispersion filtered:	40 40
	riace 2	111 002	x ii overioaded (>		e cleavage fragment				
Codd	77	Structure F Length Width + **						* / *	μgraph/EDS ID
Grid Opening ID	Primary	Total	B M C	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*
	٧.					<u> </u>			l or comments
E1 C6			NSD						
C5 C4			NSD NSD						
C3			NSD						
C2			NSD						
C1			NSD						
E1			NSD						
E2			NSD						
E3			NSD						
E3 E4			NSD						
E5			NSD						
E3 F6 F7			NSD NSD						
F8			NSD						
F8 F9			NSD NSD			1			
			NSD NSD			1			
F10 D10			NSD						
D10			NSD						
D9			NSD			<del> </del>			
D8			NSD			<del> </del>			
D6			NSD						
100			מפאז			1			
	0	0						0	
† Must conf			ogy, SAED. and	EDXA for each	suspect asbestos fiber			Prep Quality:	
Record vis	ible pro	minent (	Chrysotile DP re	flections (002,0	004, 110, 130, 220, 20			Dissolution	Good
			tained Y/N). Prin					Carbon Film	Good
*** Characteriz			ENTATION MAI		tical Electron Microsco	ppe)		Loading	7%
		· OAH						A 1 175	M 54 '
Comments:								Analyzed By: Reviewed By:	M. Stewart



Client Name:	·							IATL Sample #:	7040585	
Client Projec		****				07/29/20	]	Client Sample #:	12	
Sample Type QC Submitta	l:	180 1	0312, Ambien	t Air Deter	mination of Asbes	tos Fibres		IATL Grid Box #: Grid Archive ID #:	2071 E5E7	
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX					
	Prima	ary Filt	er Dia. (mm²):	25	Secondar	y Filter Dia. (mm²):	n/a			
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a			
		Prima	ry Filter Type:	MCE	Sec	condary Filter Type:	n/a	Magnification:	20,000X	
Pr	imary I	Filter P	ore Size (µm):	0.8	Secondary Fil	lter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
			C	Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters	
			Grid o	pening Area:	0.0130 mm <sup>2</sup>					
		Grid (	Openings Read	/ (Required):	21	Minim	num Detection Limit:	0.0003	s/cc	
			Total Ar	rea Analyzed:	$0.273  ext{ mm}^2$	A	analytical Sensitivity:	3.66	s/mm^2	
Primary	/ Total	Ashes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1		
1 minut y	Total	113003	0.5 - 5.0 μm:	NSI	)	_			-	
			>5.0μm:	NSI						
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	3.7	s/mm²	
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00029	s/cc	
								Fraction of collection filter ashed:	0.25	
	Place "x	c" in box	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:		
			-					Volume of dispersion filtered:	10	
	Place "x" in box if overloaded (>25%)  Analysis Data  Volume of dispersion filtered: 40  * (pcf) = possible cleavage fragment									
Grid	Pr	Т	Structure F	Length	Width	1.	**		μgraph/EDS ID	
Opening ID	Primary	Total	B M C	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*	
E5 H6			NSD							
H5			NSD			+				
H4			NSD							
Н3			NSD							
H2			NSD			+				
H1			NSD							
			NSD							
J1						+				
J2			NSD							
J3			NSD			+				
J4			NSD	2	0.2			g: 11 o.1 p.		
J5			F	3	0.3	+		SiAl - Other Fiber		
E7 B6			NSD			+				
B7			NSD			1				
B8			NSD			1				
B9			NSD							
B10			NSD			1				
D10			NSD			-				
D9			NSD			1				
D8			NSD			-				
D7			NSD			-				
D6			NSD			<del> </del>				
	0							1		
4 34 - 2	0	(	CAED :	EDVA C	1 . ~			1		
	-	-			suspect asbestos fibe 004, 110, 130, 220, 20			Prep Quality: Dissolution	Good	
	-		tained Y/N). Prii			,		Carbon Film	Good	
*** Characteriz					ical Electron Microsco	ope)		Loading	4%	
SEE REVERSE	: FIBE	K ORIE	ENTATION MAI	r						
Comments:								Analyzed By: Reviewed By:		



							1		
Client Name:								IATL Sample #:	7040586
Client Projec						07/29/20		Client Sample #:	13
Sample Type QC Submitta	ıl:	ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #: Grid Archive ID #:	2071 E9F2
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Seco	ndary EFA (mm²):	n/a	•	
		Prima	ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X
Pı	rimary l	Filter P	ore Size (µm):	0.8	Secondary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			C	Grid Opening:	0.115 mm	Volu	ıme of Air Sampled:	4809	Liters
			Grid o	pening Area:	$0.0130 \text{ mm}^2$				-
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
				rea Analyzed:	${0.273}$ mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
								Nap	-
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	-
			0.5 - 5.0 μm:	NSI					
			>5.0μm:	NSI					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:		s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
	,							Fraction of collection filter ashed:	0.25
	•		x if analysis "on-					Volume (mls) used for ash dispersal:	10
	Place "x" in box if overloaded (>25%)  Analysis Data							Volume of dispersion filtered:	
		1	<u> </u>			T Dutu	T .	* (pct) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	ary	al	ВМС	μm	μm	Cirrysothe	Ampinione	Non-Aspestos	or Comments*
E9 F6			NSD						
F5			NSD						
F4			NSD						
F3			NSD						
F2			NSD						
F1			NSD						
H1			NSD						
H2			NSD						
Н3			NSD						
H4			NSD						
Н5			NSD						
F2 C5			NSD						
C4			NSD						
C3			NSD						
C2			NSD						
C1			NSD			1			
A1			NSD			1			
A2			NSD			1			
A3			NSD			1			
A4			NSD			1			
A5			NSD						
AJ			עטאו						
	0	0						0	
† Must conf			ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:	
	-	-			004, 110, 130, 220, 200			Dissolution	Good
			tained Y/N). Prin			,		Carbon Film	Good
*** Characteri			ENTATION MAI		tical Electron Microsco	ppe)		Loading	7%
	11DE	OKII	Z. (17111OIN IVIA)	-					
Comments:								Analyzed By: Reviewed By:	M. Stewart
								Kevieweu By:	



								1			
Client Name:		The L & R Group - Technical Services Analysis Date:							IATL Sample #:		
Client Projec							07/30/20		Client Sample #:		
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of	Asbest	os Fibres		IATL Grid Box #:		
QC Submitta			TEOL TEM 1	220 EM1944	)022 E	VEV			Grid Archive ID #:	F4F6	
AEM ID:			JEOL, JEM-12			VEX	E.I. D. ( 2)			1	
		-	er Dia. (mm²):	25	Se	-	Filter Dia. (mm²):				
	Primary EFA (mm <sup>2</sup> ): Secondary EFA (mm <sup>2</sup> ): n/a										
			ry Filter Type:	MCE			ondary Filter Type:		Magnification:		
Pı	rimary l	Filter P	ore Size (μm):	0.8	Secon	dary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
			(	rid Opening:	0.115 n	nm	Vol	ume of Air Sampled:	4809	Liters	
				ppening Area:	0.0130 n	nm²		ī		-	
		Grid (	Openings Read		21		Minim	num Detection Limit:	0.0003	s/cc	
		Oria (		rea Analyzed:		nm²		analytical Sensitivity:	3.66	s/mm^2	
			1 Otal Al	ica Allalyzcu.	0.273 n	ım			3.00		
Primary	/ Total	Asbes	tos Structures:	NSD	/	NSD	Non-	Asbestos Structures:	NSD		
			0.5 - 5.0 μm:	NSI	)		_			-	
			>5.0µm:	NSI	)						
			Asbestos:			mm <sup>2</sup>		Non-Asbestos:	< 7.3	s/mm²	
			Asbestos:			/cc		Non-Asbestos:	< 0.00029	s/cc	
									Fraction of collection filter ashed:	•	
	Place "s	" in bo	c if analysis "on-	hold"					Volume (mls) used for ash dispersal:	0.25	
	Place "x" in box if analysis "on-hold"								Volume of dispersion filtered:	40	
	riace 2	Analysis Data  Volume of dispersion filtered: 40  * (pcf) = possible cleavage fragm									
- · · ·	-	. ,	a	Length	Widt	h		1	(per) pessie	µgraph/EDS ID	
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm		† Chrysotile	** Amphibole	*** Non-Asbestos	or Comments*	
	ચ	_		r-			<u> </u>			or Comments"	
F4 C6			NSD								
C7			NSD								
C8			NSD								
C9			NSD								
C10			NSD								
A10			NSD								
A9			NSD								
A8			NSD								
A7			NSD								
A6			NSD								
A5			NSD								
F6 J5			NSD								
J4			NSD								
J3			NSD								
J2			NSD								
J1			NSD								
H1			NSD								
H2			NSD								
Н3			NSD								
H4			NSD								
Н5			NSD								
	0	0							0		
	-	-	ogy, SAED, and		-				Prep Quality:		
			Chrysotile DP restained Y/N). Prin			220, 200	U)		Dissolution Carbon Film	Good Fair	
*** Characteri				T AEM (Analyt		Microsco	ppe)		Loading	2%	
			ENTATION MAI	P					<u> </u>	-	
Comments:									Analyzed By:		
									Reviewed By:		



Client Name:		The I	% D Cmaxm T	Cashuisal Camp	:	Analysis Date:	 1	IATI Camula#	7040588		
Client Name:	·   ' '							IATL Sample #: Client Sample #:			
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of Asbe		ı	IATL Grid Box #:			
QC Submitta	ıl:							Grid Archive ID #:	F8F10		
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX						
	Prima	ary Filt	er Dia. (mm²):	25	Seconda	ry Filter Dia. (mm²):	n/a				
		Primar	y EFA (mm²):	385	Se	condary EFA (mm²):	n/a				
		Prima	ry Filter Type:	MCE	Se	econdary Filter Type:	n/a	Magnification:	20,000X		
Pı	rimary l	Filter P	ore Size (μm):	0.8	Secondary F	ilter Pore Size (μm):	n/a	Accelerating Voltage:	100KeV		
			C	rid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters		
				pening Area:	$0.0130 \text{ mm}^2$		1		-		
		Grid (	Openings Read		21	Minim	num Detection Limit:	0.0003	s/cc		
				ea Analyzed:	$0.273 \text{ mm}^2$		analytical Sensitivity:	3.66	s/mm^2		
<u></u>				· .					-		
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	-Asbestos Structures:	NSD	_		
			0.5 - 5.0 μm:	NSI							
			>5.0µm:	NSI							
			Asbestos:		$\frac{3.7}{0.00029}$ s/mm <sup>2</sup> s/cc		Non-Asbestos:		s/mm²		
			Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	-s/cc		
	Place "s	r" in bo	x if analysis "on-l	hold"				Fraction of collection filter ashed:  Volume (mls) used for ash dispersal:	0.25		
	1		-					Volume of dispersion filtered:	10		
	]	Analysis Data  Volume of dispersion filtered: 40  * (pcf) = possible cleavage fra									
Grid	Prii	To	Structure F	Length	Width	+	**	***	μgraph/EDS ID		
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*		
F8 D5			NSD								
D4			NSD								
D3			NSD								
D2			NSD								
D1			NSD								
F1			NSD								
F2			NSD								
F3			NSD								
F4 F5			NSD								
F10 H6			NSD NSD								
H7			NSD								
H8			NSD								
Н9			NSD								
H10			NSD								
J10			NSD								
Ј9			NSD								
J8			NSD								
J7			NSD								
J6		-	NSD								
J5		-	NSD								
	0	0						0			
† Must conf			ogy, SAED. and	EDXA for each	suspect asbestos fil	per		Prep Quality:			
Record vis	ible pro	minent (	Chrysotile DP ref	flections (002,0	004, 110, 130, 220, 2			Dissolution	Good		
** Define Am  *** Characteria			tained Y/N). Prir		attach. ical Electron Micros	cone)		Carbon Film Loading	Good 1%		
			ENTATION MAI			1-/		Louding	170		
Comments:								Analyzed By:	M. Stewart		
							Reviewed By:				

T	<b>A</b> 1	T	L	Internat	ional	Asbestos
ll	7	L		Testing	Labora	itories

Client Client			The I	_& R Group - *	Fechnical Serv	rices	Analysis Date: 07/28/20		IATL Sample #: Client Sample #:	
Sample	е Турс	<b>::</b>	ISO	10312, Ambier	ıt Air Detei	mination of Asbe		J	IATL Grid Box #:	
QC Su									Grid Archive ID #:	
TAEN	4 ID:			JEOL, JEM-1		0033 EVEX				
		Prim	ary Fil	ter Dia. (mm²):	25	Seconda	ry Filter Dia. (mm²):	n/a		
			Prima	ry EFA (mm²):	385	Se	condary EFA (mm²):	n/a		
			Prim	ary Filter Type:	MCE	Se	econdary Filter Type:	n/a	Magnification:	20,000X
	Pı	rimary	Filter I	Pore Size (µm):	0.8	Secondary F	filter Pore Size (μm):	n/a	Accelerating Voltage:	
					Grid Opening:	0.115 mm	Vol	ume of Air Sampled:	4935	Liters
					opening Area:	0.0130 mm <sup>2</sup>				
			Grid	Openings Read		21		num Detection Limit:	0.0003	s/cc
				Total A	rea Analyzed:	0.273 mm <sup>2</sup>	Α	Analytical Sensitivity:	3.66	s/mm^2
Pr	imary	/ Total	Ashe	stos Structures:	NSD	/ NSD	Non-	-Asbestos Structures:	NSD	
	,,,,,,,			0.5 - 5.0 μm:				risocsios structures.	1130	
				>5.0μm:	NSI					
				Asbestos:	<	3.7 s/mm²		Non-Asbestos:	< 7.3	s/mm²
				Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
<b>.</b>									Fraction of collection filter ashed:	0.25
		Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40
L		Place ":	x" in bo	x if overloaded (	>25%)	Analy	sis Data		Volume of dispersion filtered:	40
			1	<del></del>			sis Data		* (pcf) = possibl	e cleavage fragment
Gri		Primary	Total	Structure F	Length	Width	to	**	***_	μgraph/EDS ID
Openir	ng ID	ar;	<u> </u>	BMC	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
A1 .	B5			2000						
	B6			HID						
	B7			Min						
	B8			P	1.5	0,3	,		SIA)	
<del></del>	B9	•		MID						
	B10		<u> </u>	P	22	0,2			SIAI	
	D10		<b> </b>	N570						
<b></b>	D9			MUD						
	D8 D7		<b> </b> -	NSD						
	Ď6			N330						
<del></del>	E5			MSD						
	E4			NSU NSD						
	E3	*****		H530						
	E2			14500						
	E1	•		14	Ÿ.5	1.40			CA)	
	G1			μF0	(Š)	3.57				
(	G2			HORSE F	1.0	U. O ¢			GAI	
(	G3			WSD					27.21	
(	G4			NSD		***				
(	G5			HJY						
				e-E-William (No. 2003) and e-Valled (No. 2003) and an						
		0	0				<u> </u>		0	
† Mus	st confi	rm by M ble pro-	Iorphol	ogy, SAED, and	EDXA for each	suspect asbestos fibe 04, 110, 130, 220, 20	er		Prep Quality:	
** Defi	ine Am	phibole	(DP ob	carysome DP rer tained Y/N). Prin	it-out EDS and	04, 110, 130, 220, 20 attach.	υυ)		Dissolution Carbon Film	Good Good
*** Char	racteriz	e by ED	S		1 AEM (Analyti	cal Electron Microsc	cope)		Loading	8%
		FIBE	K ORIE	ENTATION MAP		- 20) (	$\sim_{n,1}$			
Commer	nts:	·······		* (3) :	F (3)		OIBI SIBI		Analyzed By: Reviewed By:	M. Stewart
								ac: .c	RAIG LISTLA	7/30/20

1 of 1

			restring Labo	Tatorres						
Client Name Client Proje		The	L & R Group -	Technical Serv	Services Analysis Date: 07/29/20				IATL Sample #: Client Sample #:	
Sample Type QC Submitt	e:	ISO	10312, Ambier	nt Air Deter	rmination	of Asbest		_	IATL Grid Box #: Grid Archive ID #:	207
†AEM ID:			JEOL, JEM-1	230, EM1844	0033	EVEX			Gria Archive ID#:	EIE
		ary Fil	ter Dia. (mm²):				Filter Dia. (mm²)	: n/a		
			ary EFA (mm²):		•		ondary EFA (mm²)			
			ary Filter Type:		•		ondary Filter Type		Magnification:	20.0002
P	rimary		Pore Size (µm):		Seco		ter Pore Size (µm)		•	
					·	Tidary 1 III	ter 1 ore Size (μπι)	. 117a	Accelerating Voltage:	100KeV
				Grid Opening: opening Area:	0.115	mm mm²	Vol	lume of Air Sampled:	4935	Liters
		Grid	Openings Read	l / (Required):	21	-	Minin	num Detection Limit:	0.0003	s/cc
			Total A	rea Analyzed:	0.273	mm <sup>2</sup>		Analytical Sensitivity:	3.66	s/mm^2
	1-									
Primary	/ Total	l Asbe	stos Structures:		/	NSD	Non-	-Asbestos Structures:	NSD	_
			0.5 - 5.0 μm:							
			>5.0µm: Asbestos:	***************************************				<b>X</b> Y		
			Asbestos:		3.7 0.00029	s/mm <sup>2</sup> s/cc		Non-Asbestos:		s/mm²
			ASUESIUS.		0.00029	3/00		Non-Asbestos:		s/cc
	Place "	x" in bo	ox if analysis "on-	hold"					Fraction of collection filter ashed:	0.25
	4		x if overloaded (						Volume (mls) used for ash dispersal: Volume of dispersion filtered:	-10
	··			,	A	nalysi	is Data		·	40 e cleavage fragmen
Grid Opening ID	Primary	Total	Structure F B M C	Length µm	Wie µr		† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
E1 · C6	<u> </u>	<u> </u>	1.50			***				or Comments*
C5	<del> </del>	<del>                                     </del>	H20						WINDOWS CONTROL CONTRO	
C4	<del>                                     </del>	<del>                                     </del>	NON							
C3		1	1 12	3.5	D,	<u> </u>			C. w.1	
C2	<b> </b>	<del>                                     </del>	米	ر ر	V1.				SIAI	
CI	<del>                                     </del>	<del>                                     </del>	F	1.6	O. 16	<u> </u>			0 -	
EI T	<b>-</b>	<b> </b>	NSD	1.0	U. 10	<u>'</u>			Cs	
E2		1	MOD							
E3			N2D			······································				
E4		1	WM							
E5			400							
E3 F6		<b> </b>	NED							
F7			13	2,5	ಶನ			OR BOXA ACT	INOUTS	
F8			in	1.6	0, 2				SIAI	
, F9			250							
F10			m	1.5	0.2	-			Sin1m, Cil	
D10			hab							
D9		<u> </u>	NSD							
D8		<b> </b>	พรูด							
D7		<b> </b>	P	<u> </u> , 3	0.25				(r	
D6		<b> </b>	MUD							
	0	0					,		<u> </u>	
† Must confi	MERCHAND CARD	Recordend Copia	ogy, SAED, and	EDYA for carl	cuerant!	octoc E!			0	
Record vis	ible pror	minent	Chrysotile DP ref	lections (002,0	04, 110, 130	), 220, 200	)		Prep Quality: Dissolution	Good
** Define Am	phibole	(DP ob	tained Y/N). Prir	nt-out EDS and a	attach.				Carbon Film	Good
*** Characteriz SEE REVERSE			ENTATION MAI	1 AEM (Analyti	cal Electron	Microscop	oe)		Loading	7%
		01(11		IBLE FIL	Q F B					
Comments:			-* NO	1000 PM	11/UV				Analyzed By:	M. Stewart
***************************************									Reviewed By:	
								00	CRAIR LITHA	7/30/2
							l of l	~		No -
										2 10 var



Client ID:	L&R
------------	-----

IATL Sample #:

7040584-1MS E3:F7

EDXA ID:

ACTINOLITE/SiAl?

Plate # Cam Length Exp. Time

## **Sketch of Structure**

**Elemental Composition:** 

Micrograph Plate # (if applicable):

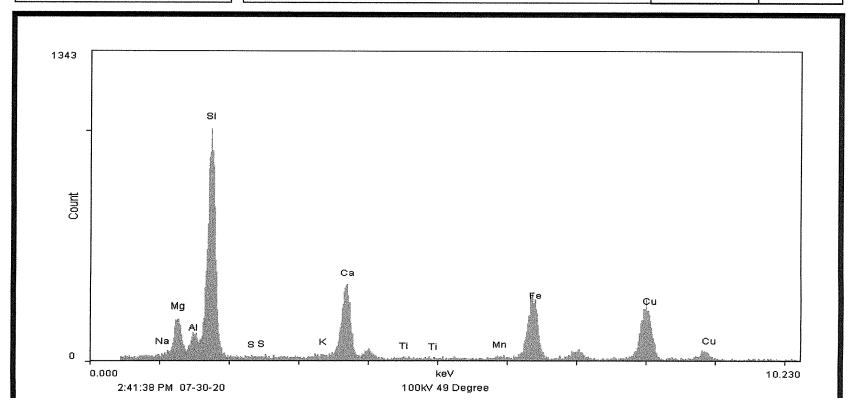
0.6

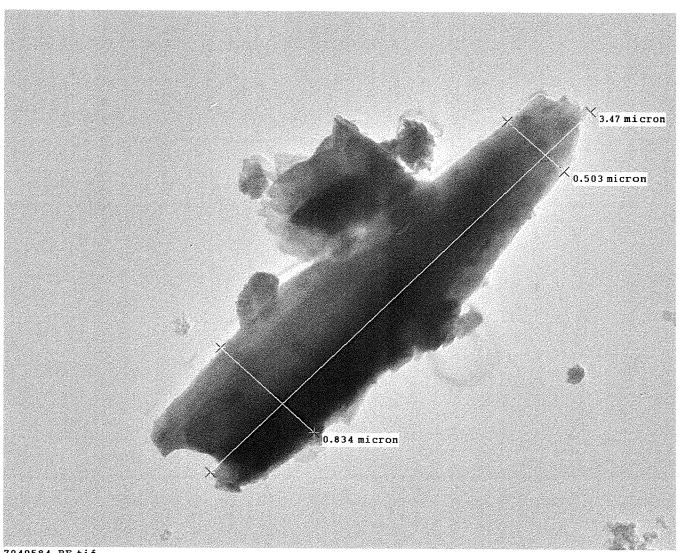
60

Elements:	WT%	AT%	K_A	K_F	K_Z	Intensity	P/bkg
MgK	15.7	19.18	0.352	1.02	1.002	17.48	1.6
AIK	2.08	2.29	0.276	1.036	0.976	2.534	0.2
SiK	60.38	63.88	0.32	1.003	1.007	111.274	8.1
CaK	14.48	10.73	0.348	1.007	1.002	43.955	4.8
FeK	7.37	3.92	0.678	1	0.935	40.214	8.6

Elapsed LT:

60 sec.





7040584-BF.tif

7040584

Print Mag: 39900x@7.0 in 14:15 07/30/20

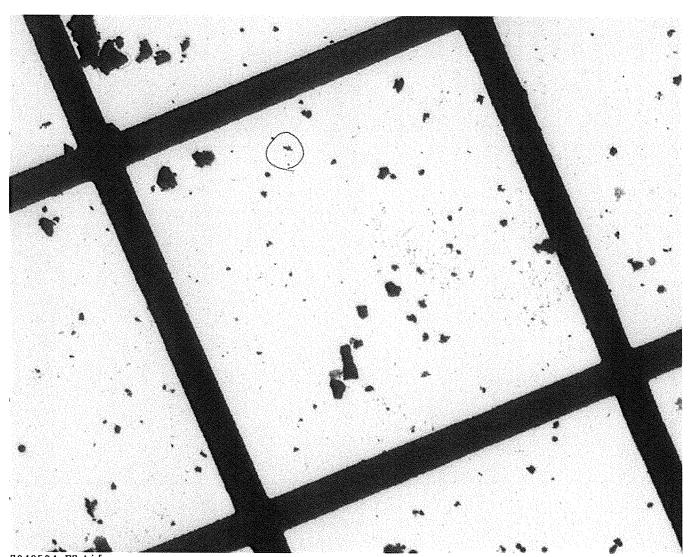
TEM Mode: Imaging Microscopist: MS

500 nm HV=100kV

Direct Mag: 5000x AMT Camera System



7040584-DP.tif 7040584 14:14 07/30/20 TEM Mode: Diffraction Microscopist: MS HV=100kV Cam Len: 0.2 m AMT Camera System



7040584-F7.tif 7040584

Print Mag: 799x @ 7.0 in

14:26 07/30/20 TEM Mode: Imaging Microscopist: MS 10 microns HV=100kV Direct Mag: 100x AMT Camera System

Low may shot of E3: F7

I only found one fiber/cleavage fragment. It does not match ch's dimensions but the anscreen spacing is congrous with an amphibble and it's chemistry is close to Artifolite except for an Al peak. I do not have ch's as he didn't save it.



IATL Reports Group NG 9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308		Batch Number:	617346		
Customer:	The L & R Group - Technical Service 680 South Progress Ave 2A Meridian ID	ces	Project: Project Number: TAT:	Mountain Home AFB 20050T 5 Day		
Customer Rep:	Shirley Clark					
			Date/Time Recd:	07/30/2020 10:30 AM		
# of Samples:	15 Analysis:	TEM - ISO 10312	Date/Time Due:	08/06/2020 5:00 PM		
Client Notes:	N/A					
Lab Technician Notes	:: N/A package relial in go	ood unotition L				
Accounting Notes:	N/A					
Report Processing No	tes: N/A					
Shipping E	rror:		Analysis Acl	knowledgement		
Samples wer	e not received in a sealed container. B	Bulk samples not double	TEM Prep			
bagged.						
Air Cassettes contaminatio	received open in bagsample integri	ity compromised, possible	TEM - ISO 10312			
Samples rece			<u> </u>			
	ived covered with dustpossible cros	ss contamination.				
Sample conta	iners damaged, contents spilledposs	sible cross contamination.				
	ceived in the same bag as samples po	ossible contamination.				
	ete Chain of Custody Received.					
	ete Sample Log Received. iiner IDs do not match the client's sam	nnle log				
	nd Time indicated.					
PCM Re-prep for TEM NIOSH 7402. Cassettes previously opened and						
portion of fil	ter removed.	_				
	submitted as required by the requeste		ť			
Minimum sh	ipping requirements not attained. See	attached Carrier Air Bill.	maside samples.			
Other: <u>iv</u>	ipping requirements not attained. See 0 FIELD BLANKS PROVIDED r:	" rap Planks bichard "	,			
				d Incorrectly:		
— Wrong Clien — Wrong Clien	t Location Listed	**************************************	<ul><li>Sample Log Stampe</li><li>Sample Containers N</li></ul>			
	ect ID Listed	***************************************	<ul> <li>Duplicate / Extra Sa</li> </ul>			
	Around Time Listed		<ul> <li>Lab Technician Ben</li> </ul>	•		
Wrong Due I	Date Listed		- Lau rechnician Den	ion Shoct Entit		
	e / Time Received Listed					
	ysis Method Listed					
——— Wrong Numl	per of Samples Listed					



# Chain of Custody -Airborne Asbestos –

Contact Informs	**************************************				
Contact Informa			200050T		
Client Company:	The L&R Group	<b>Project Number:</b>	200050T  Mountain Home AFB		
Office Address:	680 S. Progress Ave.	<b>Project Name:</b>			
City, State, Zip:	Meridian	<b>Primary Contact:</b>	Laurie Kuther		
Fax Number:		Office Phone:	208.813.7700		
Email Address:	Laurie@Irenviro.com	Cell Phone:			
Matrix/Method:					
☐ PCM: NIOSI	H 7400				
☐ PCM: OSHA					
☐ TEM: OSHA					
	A 40 CFR 763				
TEM: ISO 10					
☐ TEM: ISO 13					
Other	**************************************				
Special Instructi					
Special Instructi	ous:				
Turnaround Tin	ne				
Preliminary Results Re	guested Date:	□Verba	al   Email   Fax		
·	Specific date / time	- I. ъ. в. П. с. т. в. в. П.	ст. нь Пружин		
	0 Day ☐ 5 Day ☐ 3 Day ☐ 2 Day ☐	11 Day* L 12 Hour** L	6 Hour** LIRUSH**		
* End of next l	business day unless otherwise specified. ** N	Satrix Dependent. ***Please n	otify the lab before shipping***		
			FF		
Chain of Custod	<u>'Y</u>		and the second s		
	ne/Organization): L&R Group	Date: 7/29/2020	Time: 1400		
Received (Name /		Oiom Date:	Time:		
Sample Login (Nat		10:30 Date:	Time:		
Analysis(Name(s)	· · · · · · · · · · · · · · · · · · ·	Date: <u>8/4/20</u>	Time:		
QA/QC Review (N	·	Date:	Time: JUL 3 0 2/20		
Archived / Release	uQA/QC InterLAB Use:	Date:	Time:		
	12 P 817 17A				



## Sample Log

-Airborne Asbestos -

Client: L&R Group	Project: 200050T
Sampling Date/Time: 7/29/2020	

Client Sample #	iATL#	Location/ Description	Flow Rate	<u>Start</u> End	Sampling time (min)	Area (ft2) Volume (L)	Results ( )
01	704231~	LR-043	7LPM	11:06am 10:33pm	687	4800	
02	7042316	LR-043	7LPM	11:13am 10:40pm	687	4800	
03	7042317	LR-043	7LPM	11:18am 10:45pm	687	4800	
04	7042318	LR-043	7LPM	11:20am 10:47pm	687	4800	
05	7042319	LR-043	7LPM	11:22pm 10:49pm	687	4800	
06	7042320	LR-043	7LPM	11:29 am 10:56 pm	687	4800	
07	7042321	LR-043	7LPM	11:54am 11:21pm	687	4800	
08	7043322	LR-043	7LPM	12:00pm 11:27pm	687	4800	
09	7042323	LR-043	7LPM	12:05pm 11:32pm	687	4800	
10	7043334	LR-043	7LPM	12:12pm 11:39pm	687	4800	
11	7042305	LR-043	7LPM	12:17pm 11:44pm	687	4800	
12	7043336	LR-043	7LPM	12:23pm 11:50pm	687	4800	
13	7048327	LR-043	7LPM	11:50am 11:17pm	687	4800	
14	7048328	LR-043	7LPM	12:28pm 11:65pm	687	4800	
15	7043329	LR-043	7LPM	12:40pm 12:04am	687	4800	

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

\*\* = Insufficient Sample Provided to Analyze (<50mg) \*\*\*= Matrix / Substrate Interference Possible FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

4788

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



## Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617346
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	5 Days
Client Contacts	:	Laborator	y Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custo	ly:			
Samples Taken in	Field:	Date:		Time:
Samples Rec'd at I	aboratory: L. D'Ornellas	Date:	7/30/20	Time:
Samples Prepped:	B. Reich	Date:	8/3/20	Time:
Samples Analyzed	M. Stewart	Date:	8/4/20	Time:
Preliminary Results	s Faxed:	Date:		Time:
Preliminary Results	s E-Mail:	Date:		Time:
1-		Sum	mary Data	

## **Transmission Electron Microscopy**

## ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Total Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
01	7042315	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
02	7042316	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
03	7042317	4809.0	1	1	Chrysotile	3.7	0.000293
04	7042318	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
05	7042319	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
06	7042320	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
07	7042321	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
08	7042322	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
09	7042323	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air	
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III
structures >5µm in length.	

2077 Ш

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



## Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617346
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	5 Days
Client Contacts	ii.	Laborato	ry Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custo	dy:			
Samples Taken in	Field:	Date:		Time:
Samples Rec'd at I	Laboratory: L. D'Ornellas	Date:	7/30/20	Time:
Samples Prepped:	B. Reich	Date:	8/3/20	Time:
Samples Analyzed	: M. Stewart	Date:	8/5/20	Time:
Preliminary Result	s Faxed:	Date:		Time:
Preliminary Result	s E-Mail:	Date:		Time:
		Sum	mary Data	

## Transmission Electron Microscopy

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

					103, Direct Transier (130 10312		
Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structuras	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm²	5,6Results s/cc
10	7042324	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7042325	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
AND THE RESERVE OF THE PERSON							
			***************************************				

SSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Gric
lusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	Gile
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air	
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrumen
tructures > 5 µm in length.	

Grid Box #:	2077
rument (L. II. III):	Ш

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



## Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617346
	Meridian ID			
Client No.:	LRG308		Turn-Around Time	: 5 Days
Client Contacts	:	Laborato	ry Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custoo	ly:			
Samples Taken in I	Field:	Date:		Time:
Samples Rec'd at L	aboratory: L. D'Ornellas	Date:	7/30/20	Time:
Samples Prepped:	B. Reich	Date:	8/3/20	Time:
Samples Analyzed:	M. Stewart	Date:	8/6/20	Time:
Preliminary Results	Faxed:	Date:		Time:
Preliminary Results	E-Mail:	Date:		Time:
L <del>'</del>		Sum	mary Data	
			Electron Microscop	v

## ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Total Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
12	7042326	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7042327	4809.0	None Detected	0 None Detected		< 3.7	< 0.000293
14	7042328	4809.0	None Detected	0 None Detected		< 3.7	< 0.000293
15	7042329	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2077
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	·	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
structures >5μm in length.		

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



## Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:		R Group - Technical Services Topaz Way Suite 104		Project: Project No.:	Mountain Home AFB 20050T - Batch# 617346
	Meridian			rioject No	200301 - Balcii# 017340
Client No.:	LRG308			Turn-Around Time:	5 Days
Client Contacts	3:		Laboratoi	y Contacts:	
Contacts:			Contacts:	Frank E. Ehrenfeld III	
Phone:			Phone:	(856) 231-9449	
Fax:			Fax:	(856) 231-9818	
Cell/Pager:			Cell/Pager:	(b) (6)	
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	om
Chain of Custo	dy:				
Samples Taken in l	Field:		Date:		Time:
Samples Rec'd at L	.aboratory:	L. D'Ornellas	Date:	7/30/20	Time:
Samples Prepped:		B. Reich	Date:	8/3/20	Time:
Samples Analyzed:	:	M. Stewart	Date:	8/6/20	Time:
Preliminary Results			Date:		Time:
Preliminary Results	s E-Mail:		Date:	•	Time:

## Summary Data Transmission Electron Microscopy

## ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID#	IATL Volume Primary Asbestos Asbestos Asbestos Types Identify  Sample ID # (L) Structures Structures Structures		<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc		
1	7042315-REP	-REP 4809.0 None Detected 0 None		None Detected	< 3.7	< 0.000293	
12	7042326-REP	4809.0	None Detected 0		None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	Detected 0 None Detected		< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
							<b></b>
19-10-1-1-1-1							
		***************************************			***************************************		
		W- MI					
<del></del>							

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all structures >5µm in length.

Grid Box #:	2071
Instrument (I, II, III):	Ш

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

Client Name: Client Projec		The L	& R Group - T	echnical Serv	ices		olysis Date: 08/04/20		IATL Sample #: Client Sample #:	
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of A	Asbesto	s Fibres	•	IATL Grid Box #:	2077
QC Submitta									Grid Archive ID #:	A1A3
<sup>†</sup> AEM ID:			JEOL, JEM-12		****	/EX	*****			
	Prim	•	er Dia. (mm²):	25	Sec		Filter Dia. (mm²):			
			ry EFA (mm²):	385			idary EFA (mm²):		,	
_	. ,		ry Filter Type:	MCE			ndary Filter Type:		Magnification:	
Pi	imary	Filter P	ore Size (µm):	0.8	Seconda	ary Filte	er Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
				irid Opening:	0.115 mr		Volu	ume of Air Sampled:	4809	Liters
				pening Area:	0.0130 mr	n²				
		Grid (	Openings Read		21			num Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mr	m²	A	analytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/ 1	NSD	Non-	-Asbestos Structures:	2	
			0.5 - 5.0 μm:	NSI	)	·				-
			>5.0µm:	NSI	)					
			Asbestos:			nm <sup>²</sup>		Non-Asbestos:	7.3	s/mm²
			Asbestos:	<	0.00029 s/c	c		Non-Asbestos:	0.00059	_s/cc
<b></b>	l., "								Fraction of collection filter ashed	0.25
<u></u>	:		x if analysis "on-l						Volume (mls) used for ash dispersal	10
L	Place "	x" in bo	x if overloaded (>	>25%)	Ana	alysi	s Data		Volume of dispersion filtered  * (nef) = nessib	40 le cleavage fragmen
Grid	29		C	Length	Width			l e	(per) — possio	μgraph/EDS ID
Opening ID	Primary	Total	Structure F BMC	μm	μm		† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*
A1 G6		<del> </del>	NSD							0. 00
G5		<u> </u>	NSD						***************************************	
G4			F	1.4	0.2				SiAl - Other Fiber	
G3			F	1	0.2				CaS - Gypsum	
G2			NSD							
G1		ļ	NSD				***************************************			
E1	ļ	<u> </u>	NSD							
E2		ļ	NSD							
E3		<b> </b>	NSD							
E4 E5			NSD							
A3 F5			NSD NSD							
F4			NSD							
F3			NSD							
F2			NSD							
F1			NSD							
HI			NSD							
H2			NSD							
Н3			NSD							
H4			NSD							
H5			NSD							
	0	0							2	
† Must conf	0.72	************	ogy, SAED, and	EDXA for each	suspect asbest	os fiber		1	Prep Quality:	
Record vis	ible pro	minent (	Chrysotile DP ref	flections (002,	004, 110, 130, 2	220, 200	)		Dissolution	GOOD
** Define An  *** Characteri			tained Y/N). Prir	nt-out EDS and AEM (Analyt		icroscor	e)		Carbon Film Loading	FAIR 6%
			ENTATION MAI				• •		Locaring	U/0
Comments:						***************************************			Analyzed By: Reviewed By:	

Client Name:		The L	& R Group - T		ices A	nalysis Date: 08/04/20		IATL Sample #: Client Sample #:	
Sample Type	:	ISO 1	0312, Ambient	t Air Deter	mination of Asbes	tos Fibres		IATL Grid Box #:	
QC Submitta								Grid Archive ID #:	A5A7
†AEM ID:			JEOL, JEM-12	230, EM18440	0033 EVEX	***************************************	····		
		-	er Dia. (mm²):	25	Secondar	y Filter Dia. (mm²):	n/a		
			ry EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a		
			ry Filter Type:	MCE	Sec	condary Filter Type:	n/a	Magnification	20,000X
Pı	rimary I	Filter P	ore Size (µm):	0.8	Secondary Fil	lter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ıme of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		-
		Grid (	Openings Read	-	21	Minim	um Detection Limit:	0.0003	s/cc
				ea Analyzed:	0.273 mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1	
			0.5 - 5.0 μm:	NSE					
			>5.0μm:	NSD					
			Asbestos:		3.7 s/mm <sup>2</sup> 0.00029 s/cc		Non-Asbestos:	3.7	s/mm²
<u> </u>			Assesios:		0.00029 s/cc		Non-Asbestos:	0.00029	s/cc
	Place "s	r" in ho	x if analysis "on-l	nold"				Fraction of collection filter ashed	
<u> </u>	:		x if overloaded (>					Volume (mls) used for ash dispersal Volume of dispersion filtered	40
					Analys	sis Data		-	le cleavage fragmen
Grid	Pri	=	Structure F	Length	Width		4.5	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
A5 E5		<b>i</b>	NSD						
E6			NSD						
E7			NSD						
E8			NSD						
E9			NSD						
E10			NSD						
G10		<u> </u>	NSD						
G9		ļ	NSD						
G8	ļ	<u> </u>	NSD						
G7	ļ		NSD		***************************************				
G6		<b> </b>	NSD						<b> </b>
A7 D6 D7		-	NSD NSD						
D8		<del> </del>	F	3	0.4			CoS Communication	<u> </u>
D9			NSD		0.4			CaS - Gypsum	
D10		<b></b>	NSD						
F10			NSD						
F9			NSD						
F8			NSD						
F7			NSD						
F6			NSD						
	0	0						1	
					suspect asbestos fibe			Prep Quality:	_
			Chrysotile DP ref tained Y/N). Prin		04, 110, 130, 220, 20 attach.	)()		Dissolution Carbon Film	GOOD
*** Characteriz	ze by ED	OS		<sup>1</sup> AEM (Analyti	ical Electron Microsco	ope)		Loading	7%
SEE REVERSE	E: FIBE	R ORIE	ENTATION MAI	•					
Comments:								Analyzed By: Reviewed By:	



		Testing Labo						
Client Name: Client Project #:		L & R Group - 7	Fechnical Serv	ices	Analysis Date: 08/04/20		IATL Sample #: Client Sample #:	
Sample Type:	ISC	) 10312, Ambien	ıt Air Deter	mination of A	Asbestos Fibres		IATL Grid Box #:	
QC Submittal:							Grid Archive ID #:	
†AEM ID: III		JEOL, JEM-1	230, EM18440	0033 EV	/EX			
Pr	rimary I	ilter Dia. (mm²):	25	Sec	ondary Filter Dia. (mm²)	: n/a		
	Prin	nary EFA (mm²):	385		Secondary EFA (mm²)	: n/a	•	
	Pri	mary Filter Type:	MCE		Secondary Filter Type	: n/a	Magnification:	20,000X
Prima	ry Filte	r Pore Size (μm):	0.8	Seconda	ary Filter Pore Size (µm)	: n/a	Accelerating Voltage:	100KeV
			Grid Opening:	0.115 mr	n Vo	lume of Air Sampled:	4000	Litara
			opening Area:	0.0130 mr		iume of Air Sampled:	4809	Liters -
	Gri	d Openings Read		21 mr		D	0.0003	2/22
	Gi		rea Analyzed:	0.273 mr	•	num Detection Limit:	3.66	s/cc
		Total A	ica Anaiyzcu.	U.273 IIII	11	Analytical Sensitivity:	3.00	s/mm^2
Primary / To	otal Ash	estos Structures:	1	7	l Nor	-Asbestos Structures:	1	
		0.5 - 5.0 μm:			··················			•
		>5.0µm:	NSE	)				
		Asbestos:		3.7 s/n	nm² .	Non-Asbestos:	3.7	s/mm²
		Asbestos:		0.00029 s/c	c	Non-Asbestos:	0.00029	s/cc
							Fraction of collection filter ashed	0.25
processor of the same of the s		box if analysis "on-					Volume (mls) used for ash dispersal	40
Plac	ce "x" in	box if overloaded (	>25%)	Ana	alysis Data		Volume of dispersion filtered	
	. 1		Langeth	Width	-	1	* (pct) = possib	le cleavage fragment
Grid Grid Opening ID	lotal	Structure F B M C	Length μm	νν iden μm	† Chrysotile	**Amphibole	*** Non-Asbestos	μgraph/EDS ID
			F****					or Comments*
A9 E5		NSD						
E4		NSD						
E3		NSD						
E2 E1	_	F NSD	2.8	0.3			SiAl - Other Fiber	
GI		NSD						
G2	-	NSD						
G3		NSD						
G4 1	1 1	F	2	0.05	CD			7042317-1
G5		NSD						70.231,1
G6		NSD						
B2 E5		NSD						
E4		NSD						
E3		NSD						
E2		NSD		***				
E1		NSD						
C1		NSD						
C2		NSD	-			<b> </b>		
C3		NSD						
C4		NSD	<u> </u>					
C5	+	NSD				-		
1	1 1						ľ	
		hology, SAED, and	EDXA for each	suspect ashest	os fiber		Prep Quality:	
Record visible	promine	nt Chrysotile DP re	eflections (002,0	04, 110, 130, 2			Dissolution	GOOD
		obtained Y/N). Pri					Carbon Film	GOOD
*** Characterize by SEE REVERSE: F		RIENTATION MA	AEM (Analyt	ical Electron M	icroscope)		Loading	7%
Comments:		WINDIVINIA					Analyzed By: Reviewed By:	

				TOUTING BUDGE	4001100								
	t Name: t Projec		The L	& R Group - T	echnical Serv	ices	Aı	nalysis Date: 08/04/20				IATL Sample #: Client Sample #:	
Samp	le Type	:	ISO 1	0312, Ambien	t Air Deter	ے mination o	f Asbest	tos Fibres				IATL Grid Box #:	
-	ubmitta											Grid Archive ID #:	
†AE	M ID:	III		JEOL, JEM-12	230, EM18440	0033	EVEX						
		Prim	ary Filt	er Dia. (mm²);	25	S	econdary	y Filter Dia. (m	m²):	n/a			
			Prima	y EFA (mm²):	385		Seco	ondary EFA (m	m²):	n/a			
			Prima	ry Filter Type:	MCE		Sec	ondary Filter T	ype:	n/a		Magnification:	20,000X
	Pi	rimary l	Filter P	ore Size (µm):	0.8	Secor	ıdary Fil	lter Pore Size (1	ım):	n/a		Accelerating Voltage:	100KeV
					rid Opening:	0.115	mm		Volu	me of Air San	nled:	4809	Liters
					ppening Area:	0.0130			VOIU	inic of An Jun		7007	- Liters
			Grid (	Openings Read	-	21	11111	N/	ii	um Dataation I		0.0003	s/cc
l			0.10		ea Analyzed:		mm²	IV.		um Detection I nalytical Sensi		3.66	s/mm^2
L					- Individual Section 1	0.275	11111			marytical Schist		3.00	
	Primary	/ Total	Asbes	tos Structures:	NSD	1	NSD		Von-	Asbestos Struc	tures:	2	
				0.5 <b>-</b> 5.0 μm:	NSI	)		<del></del>					-
				>5.0μ <b>m</b> :	NSI								
				Asbestos:	<del></del>		s/mm <sup>*</sup>			Non-Asb		7.3	s/mm²
				Asbestos:	<	0.00029	s/cc			Non-Asb	estos:	0.00059	s/cc
		1										Fraction of collection filter ashed	0.25
		•		x if analysis "on-								Volume (mls) used for ash dispersal	40
	L	Place "	k" in bo	x if overloaded (	>25%)	$\mathbf{A}_{1}$	nalys	is Data				Volume of dispersion filtered	
		-	T	G	Length	Wid		T	<b></b>		Т	(pcr) – possio	le cleavage fragment μgraph/EDS ID
11	rid ing ID	Primary	Total	Structure F B M C	μm	μn		† Chrysoti	le	** Amphibe	ole	*** Non-Asbestos	
<u></u>		'	<del>  -</del>			•							or Comments*
B4	D6		<b> </b>	NSD			,						
<b></b>	D5 D4		<del>                                     </del>	NSD									
<b> </b>	D3		<b> </b>	NSD NSD									
	D3		<del> </del>	NSD									
	DI			NSD					$\dashv$				
<b></b>	BI		<del>                                     </del>	NSD									
	B2		<b>1</b>	NSD									
	B3		<b>-</b>	NSD									
	B4		<b></b>	NSD					$\dashv$		_		
<b></b>	B5	<u> </u>		NSD									
В6	В6	l		NSD							_		
	B7			NSD		······································							
	B8	<u> </u>	<b>†</b>	NSD					$\neg \neg$		-+		
	В9			NSD									
	B10			NSD									
	D10			F	2.5	0.4	ļ					CaS - Gypsum	
	D9			F	2.7	0.5	<del></del>					CaS - Gypsum	
	D8			NSD									
	D7			NSD									
	D6			NSD									
		0	0			25-36-						2	
† 1	Aust conf	irm by N	Morphol	ogy, SAED, and	EDXA for each	suspect asb	stos fibe	er				Prep Quality:	
** D	ecora vis efine Am	noie pro ophibole	(DP oh	Chrysotile DP restained Y/N). Prin	nections (002 ,0 nt-out EDS and	104, 110, 130 attach	, 220, 20	JU)				Dissolution Carbon Film	GOOD
*** C	haracteri	ze by EI	OS		I AEM (Analyt		Microsco	ope)				Loading	7%
SEE R	EVERSE	E: FIBE	R ORIE	ENTATION MAI	P								
Comn	nents:											Analyzed By: Reviewed By:	

Client Name		The L	. & R Group - 1	Technical Serv	rices A	nalysis Date:		IATL Sample #:	7042319	
Client Project	ct #:				<u> </u>	08/04/20		Client Sample #:	05	
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of Asbes	tos Fibres		IATL Grid Box #:	2077	
QC Submitts								Grid Archive ID #:	B8B10	
†AEM ID:			JEOL, JEM-12							
	Prim	-	ter Dia. (mm²):	25	•	y Filter Dia. (mm²):	n/a			
			ry EFA (mm²):	385	. Sec	ondary EFA (mm²):	n/a			
		Prima	ıry Filter Type:	MCE	. Sec	condary Filter Type:	n/a	Magnification:	20,000X	
P	rimary l	Filter P	ore Size (µm):	0.8	Secondary Fil	lter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV	
				Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters	
				pening Area:	<del></del>		our in outhpiou.	1002	·	
		Grid (	Openings Read		21	Minim	um Detection Limit:	0.0003	s/cc	
			-	rea Analyzed:			nalytical Sensitivity:		.s/mm^2	
L			T Ottai 7 ti	tea / mary zea.	0.275 IIIII	Λ	marytical Schshivity.	3.00	S/IIII 2	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1		
			0.5 <b>-</b> 5.0 μm:	NSI	)	MANUEL STATE OF THE STATE OF TH			•	
			>5.0μm:	NSI	)					
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	3.7	s/mm²	
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00029	s/cc	
	-		***************************************					Fraction of collection filter ashed:	0.25	
	Place ":	r" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40	
L	Place ":	r" in bo	x if overloaded (>	>25%)	Analys	sis Data		Volume of dispersion filtered:	40	
	<del></del>	r				To Data		* (pcf) = possibl	e cleavage fragment	
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	**.	***	μgraph/EDS ID	
Opening ID	ary	<u> </u>	BMC	μm	μm	Chrysottle	Amphibole	*** Non-Asbestos	or Comments*	
B8 G6			NSD							
G7			NSD							
G8			NSD							
G9			NSD					***************************************		
G10			NSD							
E10			F	4.5	0.7			CaS - Gypsum		
E9			NSD							
E8			NSD							
E7			NSD							
E6			NSD							
E5			NSD							
B10 E5			NSD							
E4			NSD							
E3			NSD						***************************************	
E2			NSD							
El			NSD							
C1			NSD							
C2			NSD							
C3			NSD							
C4			NSD							
C5			NSD							
	0	0						1		
† Must conf	irm by N	/orphol	ogy, SAED, and	EDXA for each	suspect asbestos fibe	er		Prep Quality:		
Record vis	Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)  * Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  Dissolution  GOOD  Carbon Film  GOOD									
*** Characteri					attacn. ical Electron Microsco	ope)		Carbon Film Loading	GOOD 7%	
SEE REVERSE	E: FIBE	R ORIE	ENTATION MAI							
Comments:		······································						Analyzed By: Reviewed By:	M. Stewart	

		<del></del>							
Client Name Client Projec		The L	. & R Group - T	echnical Servi	ices A	nalysis Date: 08/04/20		IATL Sample #: Client Sample #:	7042320 06
Sample Type		ISO I	10312, Ambien	t Air Deter	mination of Asbes		I	IATL Grid Box #:	2077
QC Submitta			•					Grid Archive ID #:	C1C3
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prim	ary Filt	ter Dia. (mm²):	25	Secondary	y Filter Dia. (mm²):	n/a	· · · · · · · · · · · · · · · · · · ·	
		Prima	ry EFA (mm²):	385		ondary EFA (mm²):	n/a		
			ary Filter Type:	MCE		ondary Filter Type:		Magnification:	20,000X
P	rimary .		ore Size (µm):	0.8		lter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
								recording voluge.	1001607
				Grid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>				
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	rea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
				1100					
Primary	/ Total	Asbes	stos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	3	
			0.5 - 5.0 μm:	NSE					
			>5.0µm:	NSE					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	11.0	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00088	s/cc
	1							Fraction of collection filter ashed:	0.25
	4		x if analysis "on-					Volume (mls) used for ash dispersal:	10
L	Place "	x" in bo	x if overloaded (?	>25%)	Analys	is Data		Volume of dispersion filtered:	
	T	T		· · · · · · · · · · · · · · · · · · ·		7		* (pct) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	<u> </u>	<u> </u>	BMC	μm	μm	Chrysothe	Amphibote	Non-Aspestos	or Comments*
C1 G6			NSD						
G5			NSD						
G4			NSD						
G3			NSD						
G2			NSD						
G1			NSD						
11			NSD						
I2			М	4	0.7			SiAl - Other Fiber	
13			NSD						
I4			NSD						
15			М	4.3	0.8			SiAl - Other Fiber	
C3 H6			NSD						
H7			NSD						
H8			NSD						
Н9			NSD						
H10			NSD						
F10			NSD						
F9			NSD						
F8			NSD						
F7	<b>1</b>		F	3.5	0.6			SiAl - Other Fiber	
F6			NSD						
	l								
	0	0						3	
† Must conf	irm by N	/lorphol	logy, SAED, and	EDXA for each	suspect asbestos fibe	Г		Prep Quality:	Property Company
Record vis	sible pro	minent	Chrysotile DP ref	flections (002,0	04, 110, 130, 220, 20	00)		Dissolution	GOOD
			otained Y/N). Prir			>		Carbon Film	GOOD
*** Characteri SEE REVERSE			ENTATION MAI		ical Electron Microsco	ope)		Loading	5%
		Citi		•					
Comments:								Analyzed By:	M. Stewart



Client Name: Client Projec		The L	& R Group - 1	echnical Servi	ices	A	nalysis Date: 08/04/20		IATL Sample #: Client Sample #:	7042321 07
Sample Type	:	ISO 1	0312, Ambien	t Air Deter	L mination o	f Asbes		1	IATL Grid Box #:	
QC Submitta									Grid Archive ID #:	
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033	EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	S	econdar	y Filter Dia. (mm²):	n/a		
		Primar	ry EFA (mm²):	385		Seco	ondary EFA (mm²):	n/a	•	
		Prima	ry Filter Type:	MCE		Sec	ondary Filter Type:	n/a	Magnification:	20,000X
Pr	imary l	Filter P	ore Size (µm):	0.8	Secon	ndary Fil	ter Pore Size (µm):	n/a	Accelerating Voltage:	
				`~!d O!						
				Grid Opening:		mm 2	Vol	ume of Air Sampled:	4809	Liters
		0.14		ppening Area:		mm²				
		Gria (	Openings Read	· · · · · ·	21	2		num Detection Limit:	0.0003	s/cc
			l otal Ai	ea Analyzed:	0.273	mm²	Α	analytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD		NSD	Non-	-Asbestos Structures:	6	
11		1 400 40	0.5 - 5.0 μm:	NSE	· ·					•
			>5.0µm:	NSE	)					
			Asbestos:	< .	3.7	s/mm²		Non-Asbestos:	22.0	s/mm²
			Asbestos:	<		s/cc		Non-Asbestos:	0.00176	s/cc
L									Fraction of collection filter ashed	0.25
	Place ">	c" in bo	x if analysis "on-	hold"					Volume (mls) used for ash dispersal:	
	Place "x	c" in bo	x if overloaded (	>25%)	<b>A</b> .	1	:- D-4-		Volume of dispersion filtered:	
					A	naiys	is Data		* (pcf) = possibl	e cleavage fragment
Grid	Prir	To	Structure F	Length	Wid	th	1 +	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μп	1	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
C5 C5			NSD			<del>W</del>	1			
C6			NSD							
C7			NSD		*****************					
C8			NSD							
C9			NSD							
C10			F	3	0.2	,			SiAl - Other Fiber	
E10			NSD		****					
E9			NSD							
E8			NSD			***************************************				
E7			F	6	1				CaS - Gypsum	
			F	3	0.6	)			SiAl - Other Fiber	7042321-1
E6			F	4	0.8				SiAl - Other Fiber	
C7 D5			NSD							
D4			NSD							
D3			NSD							
D2			В	1.8	0.3				CaS - Gypsum	
D1			NSD							
B1			NSD							
B2			F	6.2	1				SiAl - Other Fiber	
B3			NSD							
B4			NSD							
B5			NSD							
	0	0							6	
			ogy, SAED, and						Prep Quality:	
			Chrysotile DP ret tained Y/N). Prir			, 220, 20	0)		Dissolution	GOOD
*** Characteriz				1 AEM (Analyti		Microsco	ope)		Carbon Film Loading	GOOD 5%
			ENTATION MAI						L5	370
Comments:							***************************************		Analyzed By: Reviewed By:	M. Stewart

			lesting Labor	ratories					
Client Name Client Projec		The L	& R Group - T	echnical Servi	ices A	analysis Date: 08/04/20		IATL Sample #: Client Sample #:	7042322 08
Sample Type		ISO 1	0312. Ambien	t Air Deter	mination of Asbe		i	IATL Grid Box #:	2077
QC Submitta			,					Grid Archive ID #:	C9D2
†AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prim	ary Filt	er Dia. (mm²):	25		ry Filter Dia. (mm²):	n/a		
			y EFA (mm²):	385		condary EFA (mm²):			
			ry Filter Type:	MCE		condary Filter Type:		Magnification:	20,000X
P	rimary l		ore Size (μm):	0.8		ilter Pore Size (µm):			•
		THE I	ore size (µm).	0.0	Secondary 1	mer rote size (μm).	11/2	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters
			Grid o	pening Area;	$0.0130 \text{ mm}^2$				•
		Grid (	Openings Read	/ (Required):	21	Minim	num Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
<u> </u>				•					•
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	_
			0.5 - 5.0 μm:	NSE					
			>5.0μm:	NSE					
			Asbestos:	·····	3.7 s/mm <sup>2</sup>		Non-Asbestos:		s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
·	1							Fraction of collection filter ashed:	0.25
	=		x if analysis "on-l					Volume (mls) used for ash dispersal:	-10
L	Place ":	k" in bo	x if overloaded (>	>25%)	Analy	sis Data		Volume of dispersion filtered:	
	<del></del>	T						* (pct) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Į.	<u> </u>	BMC	μm	μm	Cirysothe	Ampinoole	TOH-ASDESIOS	or Comments*
C9 15			NSD						
16			NSD						
I7		<u> </u>	NSD						
18			NSD						
19			NSD						
I10			NSD						
G10		<u> </u>	NSD						
G9		<u> </u>	NSD						
G8			NSD						
G7			NSD						
G6			NSD						
D2 D5	<u> </u>		NSD						
D4	ļ		NSD		·				
D3		<u> </u>	NSD						
D2	<u> </u>	<b> </b>	NSD						
D1	<u> </u>		NSD						
BI		ļ	NSD						
B2		<u> </u>	NSD						
B3	<u> </u>	<u> </u>	NSD					****	
B4		<b> </b>	NSD						
B5	<u> </u>	<u> </u>	NSD						
1	0	0	α			<u> </u>		0	
					suspect asbestos fib 04, 110, 130, 220, 2			Prep Quality:	0005
			tained Y/N). Prir			.003		Dissolution Carbon Film	GOOD
*** Characteri	ze by EI	OS		1 AEM (Analyt	ical Electron Microso	cope)		Loading	7%
SEE REVERSI	E: FIBE	R ORIE	ENTATION MAI	P					
Comments:		······································						Analyzed By: Reviewed By:	

IATL Inter
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444			Testing Labor	ratories					
Client Name	:	The L	& R Group - T	echnical Serv	ices An	alysis Date:		IATL Sample #:	7042323
Client Projec	ct #:					08/04/20		Client Sample #:	09
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #:	2077
QC Submitts								Grid Archive ID #:	D4D6
<sup>†</sup> AEM ID:		***************************************	JEOL, JEM-12	230, EM18440					
	Prim	-	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
			ry EFA (mm²):	385		ndary EFA (mm²):	n/a		
			ry Filter Type:	MCE		ondary Filter Type: er Pore Size (µm):	n/a	Magnification:	20,000X
P	rimary	Filter P	ore Size (µm):	Accelerating Voltage:	100KeV				
			C	4809	Liters				
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		•
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
l									
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSI					
			>5.0µm: Asbestos:	NSI			Nian Ashania	- 2.7	, ,
			Asbestos:		3.7 s/mm 0.00029 s/cc		Non-Asbestos: Non-Asbestos:		s/mm² s/cc
			1 isocstos.		0.0002) Siec		Non-Assesios.	Fraction of collection filter ashed:	
	Place "	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	0.25
			x if overloaded (>					Volume of dispersion filtered:	10
					Analysi	IS Data		* (pcf) = possibl	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	**	***	μgraph/EDS ID
Opening ID	ary	12	ВМС	μm	μm	Chrysotile	Amphibole	Non-Asbestos	or Comments*
D4 J6			NSD						
J5			NSD						
J4			NSD						
J3	ļ	ļ	NSD					**************************************	
J2			NSD						
J1	-	<b> </b>	NSD						
H1 H2	<del> </del>	<del> </del>	NSD						
H3	<b>-</b>	<del> </del>	NSD NSD						
H4		<del>                                     </del>	NSD						
H5	<b>†</b>	<del>                                     </del>	NSD						
D6 C4	1	<del>                                     </del>	NSD		:				
C5			NSD						
C6			NSD						
C7			NSD						
C8			NSD						
A8	ļ	<u> </u>	NSD						
A7	ļ	<u> </u>	NSD						
A6	<b> </b>	ļ	NSD						
A5	ļ	<del> </del>	NSD						
A4	<del> </del>	<b> </b>	NSD						
	0	0						0	
† Must con			ogy SAFD and	EDXA for each	suspect asbestos fiber			Prep Quality:	
Record vi	sible pro	minent	Chrysotile DP rei	flections (002,0	004, 110, 130, 220, 200	))		Dissolution	GOOD
	nphibole	(DP ob	tained Y/N). Prit	nt-out EDS and				Carbon Film	FAIR
			ENTATION MAI		ical Exection Microsco	pe)		Loading	1%
Comments:								Analyzad Du	M. Stewart
								Analyzed By:	171. SICWAIL



	Client ID: L+R
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IATL Sample #:

7042321-1

EDXA ID: SiAl

Plate # Cam Length Exp. Time

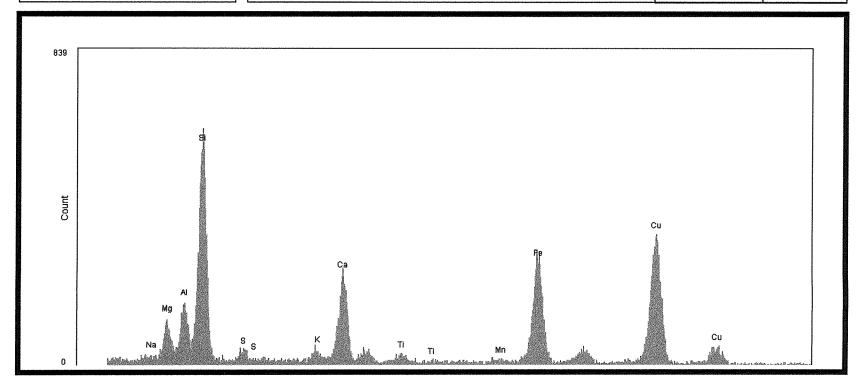
Micrograph Plate # (if applicable):

0.6

60

Elemental Com	Elemental Composition:				
Elements:	WT%	AT%	ŀ		
MgK	10.02	12.46	0.3		
AIK	12.83	14.37	O		
SiK	50.88	54.75	0.3		
SK	3.33	3.14	0		
KK	1.42	1.1	0.2		
CaK	11.62	8.76	0		
TiK	0.71	0.45	0.0		
FeK	9.17	4.96	0.0		
ketch of Structure	Elements: MgK AlK SiK S K K K CaK	Elements: WT%  MgK 10.02  AlK 12.83  SiK 50.88  S K 3.33  K K 1.42  CaK 11.62  TiK 0.71	Elements: WT% AT%  MgK 10.02 12.46  AlK 12.83 14.37  SiK 50.88 54.75  S K 3.33 3.14  K K 1.42 1.1  CaK 11.62 8.76  TiK 0.71 0.45		

Elements:	WT%	AT%	K_A	K_F	K_Z	Intensity	P/bkg	
MgK	10.02	12.46	0.329	1.02	1.007	9.613	2.3	
AIK	12.83	14.37	0.31	1.028	0.981	16.115	4.1	
SiK	50.88	54.75	0.262	1.004	1.013	70.414	20.3	
SK	3.33	3.14	0.16	1.008	1.011	3.244	1	
кк	1.42	1.1	0.287	1.029	0.981	3.204	1.1	
CaK	11.62	8.76	0.33	1.01	1.007	30.935	10.5	
TiK	0.71	0.45	0.385	1.019	0.927	2.109	0.6	
FeK	9.17	4.96	0.679	1	0.94	Elapsed LT	17,	6 sec.



Client Name:		The L	& R Group - T		ces An	alysis Date:		IATL Sample #:	
Client Projec					<u> </u>	08/05/20		Client Sample #:	10
Sample Type QC Submitta		ISO 1	0312, Ambien	t Air Deteri	mination of Asbest	os Fibres		IATL Grid Box #:	
<sup>†</sup> AEM ID:			IEOL IEM I	20 EM19440	1022 EVEV			Grid Archive ID #:	D8D10
ALM ID.		m, Eile	JEOL, JEM-12 er Dia. (mm²):	250, £10118440	***************************************	Files Dis (2)	,		
		-			_	Filter Dia. (mm²):			
			ry EFA (mm²):	385		ndary EFA (mm²):			
, n.	r		ry Filter Type:	MCE		ondary Filter Type:		Magnification:	
Pr	ımary ı	·iiter P	ore Size (µm):	0.8	Secondary Fill	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	irid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		-		•
		Grid (	Openings Read	/(Required):	21	Minim	num Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	Α	analytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	-Asbestos Structures:	1	_
			0.5 - 5.0 μm:	NSD					
			>5.0μm:	NSD	***************************************				
			Asbestos:		3.7 s/mm²		Non-Asbestos:	3.7	s/mm²
L			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00029	s/cc
· · · · · · · · · · · · · · · · · · ·	L							Fraction of collection filter ashed:	0.25
<del></del>			x if analysis "on-l					Volume (mls) used for ash dispersal:	-10
	Place "x	" in bo	x if overloaded (>	>25%)	Analys	is Data		Volume of dispersion filtered:	
				· · · · · · · · · · · · · · · · · · ·		T	<del></del>	* (pcf) = possib	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width µm	† Chrysotile	**Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	2		BMC	μm	p	S, 300e	1 Amphiovic	Non-Assestes	or Comments*
D8 G6			NSD						
G5			F	1.2	0.2			SiAl - Other Fiber	
G4			NSD						
G3			NSD						
G2			NSD						
G1	***************************************		NSD						
E1			NSD						
E2			NSD					·	
E3			NSD						
E4			NSD						
E5			NSD					<u> </u>	
D10 E6			NSD		***************************************				
E7			NSD						
E8 E9			NSD						
E9 E10			NSD						
C10			NSD NSD						
C10									
C8			NSD NSD			<u> </u>			
C8		<b>-</b>	NSD			<b>_</b>			
C6			NSD						
		<b></b>	טפאז		· · · · · · · · · · · · · · · · · · ·				
	0	0						1	
† Must confi	100000000000000000000000000000000000000		ogy, SAED, and	EDXA for each	suspect asbestos fiber			Prep Quality:	
Record vis	ible pror	minent	Chrysotile DP ref	flections (002 ,0	04, 110, 130, 220, 20	0)		Dissolution	GOOD
** Define Am	phibole	(DP ob	tained Y/N). Prir	nt-out EDS and	attach.			Carbon Film	GOOD
*** Characteriz			ENTATION MAI		ical Electron Microsco	ppe)		Loading	6%
Comments:		OMI	Z. T. T. T. O. I. IVIA		**************************************			Analyzed By: Reviewed By:	



				restring Labor	atories						
	Name: Projec		The L	& R Group - T	echnical Servi	ices		08/05/20		IATL Sample #: Client Sample #:	
	le Type		ISO 1	0312, Ambien	t Air Deter	—— mination of A				IATL Grid Box #:	
QC S	ıbmitta	ì:								Grid Archive ID #:	
†AE	M ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EV	EX				
		Prima	ary Filt	er Dia. (mm²):	25	Seco	ondary	Filter Dia. (mm²):	n/a		
			Primar	y EFA (mm²):	385		Seco	ndary EFA (mm²):	n/a		
1			Prima	ry Filter Type:	MCE		Seco	ondary Filter Type:	n/a	Magnification:	20,000X
	Pr	imary I	Filter P	ore Size (µm):	0.8	Seconda	ry Filt	er Pore Size (µm):	n/a	Accelerating Voltage:	
		<del></del>			-:40:-	0.115	<del></del>	X 7 5	CA: C 11		
					rid Opening:	0.115 mm		Voit	ume of Air Sampled:	4809	Liters -
			0.11		pening Area:	0.0130 mm	า๊			0.0000	
			Gria	Openings Read	-	21	2		um Detection Limit:	0.0003	s/cc
<u> </u>				l otal Ar	ea Analyzed:	0.273 mm	n*	A	nalytical Sensitivity:	3.66	s/mm^2
Г	rimary	/ Total	Ashee	tos Structures:	NSD	/ N	NSD	Non-	Asbestos Structures:	2	
1		, 10tur	1 83003	0.5 - 5.0 μm:	NSE	*		•			-
				>5.0μm:	NSE						
				Asbestos:	<	3.7 s/m	nm'		Non-Asbestos:	7.3	s/mm²
				Asbestos:	<	0.00029 s/co			Non-Asbestos:	0.00059	s/cc
L			***************************************				······································			Fraction of collection filter ashed	0.25
		Place "x	in bo	x if analysis "on-l	nold"					Volume (mls) used for ash dispersal	
		Place ">	c" in bo	x if overloaded (>	25%)	Ang	lvei	is Data		Volume of dispersion filtered	
				<del>,</del>				is Data		* (pcf) = possib	le cleavage fragment
	rid	Primary	Total	Structure F	Length	Width		† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Open	ing ID	ary.	=	BMC	μm	μm		Carysome	Ampuiboie	Non-Aspestos	or Comments*
E1	C5			NSD							
<u> </u>	C4			NSD							
<u> </u>	C3			NSD		***************************************					
ļ	C2	-		NSD							
<b> </b>	C1			F	1.5	0.3				SiAl - Other Fiber	
<b> </b>				F	4.9	0.4	·····			SiAl - Other Fiber	
<u> </u>	El			NSD							
<u> </u>	E2			NSD							
ļ	E3		<u> </u>	NSD							
<b> </b>	E4			NSD		·····					
<b> </b>	E5		ļ	NSD							
	E6			NSD							
E3	F5			NSD							
<b> </b>	F4			NSD							
<b> </b>	F3		<b> </b> -	NSD				l			
<b> </b>	F2 F1		<b> </b>	NSD				<del>                                     </del>			
<b> </b>			<del>                                     </del>	NSD NSD				<u> </u>			
<b> </b>	H1 H2		<b> </b>	NSD NSD						***************************************	
<b> </b>	H2 H3		<b></b>		· · · · · · · · · · · · · · · · · · ·		<del></del>				
<b> </b>	H3		<b></b>	NSD NSD							
<b> </b>	H5		<b> </b>	NSD		·····	~~~~				
	117	0	0	חפעו						2	
† M	ust conf	Depote the second	COLUMN TERM	ogy, SAED, and	EDXA for each	suspect acheer	s fiber			Prep Quality:	1
Re	ecord vis	ible pro	minent	Chrysotile DP ref	flections (002,0	04, 110, 130, 2				Dissolution	GOOD
** D	efine Am	phibole	(DP ob	tained Y/N). Prir	nt-out EDS and	attach.	•			Carbon Film	GOOD
	naracteri: EVERSE			ENTATION MAI	' AEM (Analyt	ical Electron Mi	icrosco	ope)		Loading	7%
Comm		106	ac Oldi	Z. TITTON WA						Analyzed By:	
										Reviewed By:	

			esting Labora	tories					
lient Name: lient Project	_	he L 8	k R Group - Te	chnical Servic		lysis Date: 08/06/20		IATL Sample #: Client Sample #:	7042326 12
ample Type:	1	SO 10	312, Ambient	Air Detern	nination of Asbesto	s Fibres		IATL Grid Box #: Grid Archive ID #:	2077 E5E7
C Submittal				0 2 4104404	nna EVEV			Grid Filomite 115 ".	
AEM ID: 1			EOL, JEM-123		***************************************	Eiles Die (mm²):	n/a		
		•	r Dia. (mm²): _	25	•	Filter Dia. (mm²):			
		-	EFA (mm²): _	385		dary EFA (mm²):	n/a	Manuification:	20,000X
			y Filter Type: _	MCE		ndary Filter Type:	n/a	Magnification:	20,000X 100KeV
Pri	mary F	lter Po	re Size (µm):	0.8	Secondary Filte	er Pore Size (µm):	n/a	Accelerating Voltage:	TOOKEY
			Gr	id Opening:	0.115 mm	Volu	me of Air Sampled:	4809	Liters
			-	ening Area: _	0.0130 mm <sup>2</sup>			0.000	,
		Grid O	penings Read /	(Required):	21		um Detection Limit:	0.0003	s/cc
			Total Are	ea Analyzed:	0.273 mm <sup>2</sup>	Aı	nalytical Sensitivity:	3.66	s/mm^2
Primary /	Total	Ashest	os Structures:	NSD	/ NSD	Non-	Asbestos Structures:	5	
1 innary /	Total	Labeat	0.5 - 5.0 μm:	NSD	)		<del>-</del>		'
			>5.0µm:	NSD				10.0	-12
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	18.3	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00147	s/cc
								Fraction of collection filter ashed:	
	Place "x	" in box	if analysis "on-l	nold"				Volume (mls) used for ash dispersal:	
	Place "x	" in box	if overloaded (>	25%)	Analysi	is Data		Volume of dispersion filtered:  * (nef) = nessib	40 le cleavage fragmer
					Width	T	I I	(pcr) - possio	μgraph/EDS ID
Grid	Primary	Total	Structure F B M C	Length μm	μm	† Chrysotile	**Amphibole	***Non-Asbestos	or Comments*
Opening ID	ą								
E5 F6 F7			NSD NSD						
F8			NSD						
F9			NSD						
F10			NSD						
H10		<del> </del>	NSD						
H9		l	F	3.1	0.5			SiAl - Other Fiber	
H8			NSD	<u> </u>					
H7		<del> </del>	NSD						
H6		<u> </u>	NSD			1			
E7 A5	<b></b>		NSD						
A4		<del> </del>	NSD						
A3	-	<del> </del>	NSD			<u> </u>			
A3 A2		<del>                                     </del>	F	3.5	0.6			CaS - Gypsum	
A2 A1	<del>                                     </del>	<del>                                     </del>	NSD		1				
C1	<b>†</b>	†	F	6	1.2			SiAl - Other Fiber	
C2	<del>                                     </del>	t	NSD	<b>T</b>					
C2	<del>                                     </del>	t	NSD						
C3	<del>                                     </del>	t	F	0.7	0.1			SiAl - Other Fiber	
C5	t	T	М	1.2	0.1			SiAl - Other Fiber	
C6	<del>                                     </del>	T	NSD	1					
	0	0						5	
† Must con	firm by	Morpho	ology, SAED, and	EDXA for eac	ch suspect asbestos fibe	er oo)		Prep Quality: Dissolution	GOOD
Record v	isible pro	ominent	Chrysotile DP robtained Y/N). Pr	effections (002	,004, 110, 130, 220, 2 <sup>o</sup>	00)		Carbon Film	FAIR
** Define A	mpnibol ize by E	e (DP 0 DS	otaineu 1/N). Př	AEM (Analy	u attacti. ytical Electron Microso	cope)		Loading	6%
SEE REVERS	E: FIB	ER OR	ENTATION MA						
Comments:								Analyzed B	
								Reviewed B	V:

Client Name:	**************************************	The L	& R Group - T	echnical Serv	ices	Analysis Date:		IATL Sample #:	7042327
Client Projec	t #:					08/06/20		Client Sample #:	13
Sample Type	:	ISO 1	0312, Ambient	Air Deter	mination of Asb	estos Fibres	•	IATL Grid Box #:	2077
QC Submitta								Grid Archive ID #:	E9F2
†AEM ID:	III		JEOL, JEM-12	30, EM18440	0033 EVEX	ζ			
	Prima	ary Fill	er Dia. (mm²):	25	Second	lary Filter Dia. (mm²):	n/a		
		Prima	ry EFA (mm²):	385	So	econdary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	S	Secondary Filter Type:	n/a	Magnification:	20,000X
Pr	imary l	Filter P	ore Size (µm):	0.8	Secondary	Filter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ıme of Air Sampled:	4809	Liters
				pening Area:	$\frac{0.0130 \text{ mm}^2}{0.0130 \text{ mm}^2}$	*010	ine of All Sampled.	7007	· LRCIS
		Grid	Openings Read		21	<b>N</b> 4 i i	Data at I line it.	0.0003	s/cc
		Ond		ea Analyzed:	0.273 mm <sup>2</sup>		um Detection Limit: nalytical Sensitivity:	3,66	s/mm^2
			TOTAL AL	ca Analyzeu.	0.275 11111		naiyucai sensitivity.	3.00	- S/HIII 2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSI	D Non-	Asbestos Structures:	4	
			0.5 - 5.0 μm:	NSI	)				•
			>5.0μm:	NSI	)				
			Asbestos:	<	3.7 s/mm <sup>2</sup>	2	Non-Asbestos:	14.7	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00117	s/cc
							***************************************	Fraction of collection filter ashed:	0.25
			x if analysis "on-l					Volume (mls) used for ash dispersal:	• • •
	Place "	k" in bo	x if overloaded (>	25%)	Analy	ysis Data		Volume of dispersion filtered:	
		<del></del>	T T			7 513 Data		* (pcf) = possib	le cleavage fragmen
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	5	<u> =</u>	BMC	μm	μm	Chrysothe	Amphibote	140H-ASDESIUS	or Comments*
E9 H6			NSD						
H5		ļ	F	2.5	0.4			SiAl - Other Fiber	
H4		<u> </u>	NSD						
H3			NSD		-				
H2			NSD						
F1			F	3.5	0.6			SiAl - Other Fiber	
F2			NSD						
F3			NSD						
F4			NSD						
F5		<u> </u>	NSD						
F6			NSD						
F2 E6		ļ	NSD		-11				
E7		<u> </u>	NSD						
E8			NSD						
E9			NSD						
E10			NSD		_				
C10		ļ	NSD						
C9		<u> </u>	NSD						
C8		<u> </u>	F	2.5	0.5			SiAl - Other Fiber	
<u></u>		<del> </del>	F	2.5	0.3			SiAl - Other Fiber	
C7	<u> </u>	<b> </b>	NSD						
C6	0	0	NSD						
	XXIIX (XXII) (XXII)	Version and the	GARD :	EDVA C				4	<u> </u>
† Must confi Record vis	irm by N ible pro	viorpho minent	logy, SAED, and . Chrysotile DP rat	EDXA for each	suspect asbestos fi 004, 110, 130, 220,	200)		Prep Quality: Dissolution	0000
** Define Am	phibole	(DP of	tained Y/N). Prin	t-out EDS and	attach.			Carbon Film	GOOD FAIR
*** Characteriz	ze by EI	OS		<sup>1</sup> AEM (Analyt	ical Electron Micro	oscope)		Loading	5%
SEE KEVERSE	: FIBE	K ORI	ENTATION MAI	•					
Comments:	***************************************							Analyzed By: Reviewed By:	

Client N	lame:		The L	. & R Group - 1	echnical Serv	ices	An	alysis Date:		IATL Sample #:	704232
Client P	roject	t #:					L	08/06/20		Client Sample #:	1.
Sample '			ISO 1	0312, Ambien	t Air Deter	mination	of Asbeste	os Fibres		IATL Grid Box #:	
QC Sub										Grid Archive ID #:	F4F
†AEM	ID:			JEOL, JEM-12			EVEX				
				ter Dia. (mm²):	25			Filter Dia. (mm²):			
				ry EFA (mm²):	385			ndary EFA (mm²):			
				ry Filter Type:	MCE			ondary Filter Type:		Magnification	20,000X
	Pri	imary l	Filter P	ore Size (µm):	0.8	Sec	ondary Filt	er Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
					Grid Opening:	0.115	mm	Vol	ume of Air Sampled:	4809	Liters
				Grid o	pening Area:	0.0130	mm <sup>2</sup>		·		-
			Grid	Openings Read	/ (Required):	21	-	Minin	num Detection Limit:	0.0003	s/cc
					rea Analyzed:	0.273	mm²		analytical Sensitivity:	3.66	s/mm^2
L				****							
Pri	mary /	/ Total	Asbes	tos Structures:	NSD	/	NSD	Non-	-Asbestos Structures:	NSD	
				0.5 <b>-</b> 5.0 μm:	NSI	)	_	•			-
				>5.0µm:	NSI	)	_				
				Asbestos:		3.7	s/mm <sup>¹</sup>		Non-Asbestos:	< 3.7	s/mm²
				Asbestos:	<	0.00029	s/cc		Non-Asbestos:	< 0.00029	s/cc
			······································							Fraction of collection filter ashed	0.25
		Place ":	x" in bo	x if analysis "on-	hold"					Volume (mls) used for ash dispersal	40
		Place ":	x" in bo	x if overloaded (	>25%)		nolvoi	a Doto		Volume of dispersion filtered	
						P	Maiysi	is Data		* (pcf) = possib	le cleavage fragmer
Gric	d	Primary	Total	Structure F	Length	W	idth	+	**	***	μgraph/EDS ID
Opening	g ID	Julian	室	ВМС	μm	μ	m	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
F4 E	55		İ	NSD							
E	E6			NSD							
-	7		1	NSD							
	:8			NSD							
1	39			NSD							
1	E10			NSD							
1	310		l	NSD							
1	39		<del>                                     </del>	NSD							<del> </del>
	38		<del>                                     </del>	NSD							<del> </del>
	37			NSD							<u> </u>
	36			NSD							<u> </u>
l	16		<del>                                     </del>	NSD							
1	17			NSD							
	18		<del>                                     </del>	NSD							
I	19		<b>1</b>	NSD					<u> </u>		
-	110			NSD					1		<del> </del>
	10	***********	<b>†</b>	NSD							
1	9		<b>1</b>	NSD					1		
-	8	************	<b>1</b>	NSD							<del> </del>
F			<del>                                     </del>	NSD							
	6			NSD							<b>l</b>
l :			t	1							
		0	0						III III III III III III III III III II	0	
† Mus	t confi		• Newscoller lives	logy, SAED, and	EDXA for each	suspect as	bestos fiber	•		Prep Quality:	
Reco	ord visi	ible pro	minent	Chrysotile DP re	flections (002,	004, 110, 1				Dissolution	GOOD
** Defii *** Char				otained Y/N). Prii			n Miores	no)		Carbon Film	FAIR
				ENTATION MAI	' AEM (Analyi P	near Electro	ni ivilciosco	pc)		Loading	1%
Commen										A	Mo
Commer.	113.									Analyzed By Reviewed By	M. Stewart



Client Name:	:	The L	& R Group - T	echnical Serv	rices A	analysis Date:	]	IATL Sample #:	7042329
Client Projec	t #:					08/06/20	]	Client Sample #:	15
Sample Type QC Submitta		ISO 1	0312, Ambien	t Air Deter	mination of Asbe	stos Fibres		IATL Grid Box #: Grid Archive ID #:	2077 F8F10
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Seconda	ry Filter Dia. (mm²):	n/a		
		Primai	ry EFA (mm²):	385	Sec	condary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	Se	condary Filter Type:	n/a	Magnification:	20,000X
Pı	imary l	Filter P	ore Size (µm):	0.8	Secondary F	ilter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
					0.115	77.1	641.6 1.1	•	
				Grid Opening:	0.115 mm	Vol	ume of Air Sampled:	4809	Liters
				ppening Area:	0.0130 mm <sup>2</sup>			0.0002	
		Grid (	Openings Read		21		num Detection Limit:	0.0003	s/cc
			Total A	rea Analyzed:	0.273 mm <sup>2</sup>	Α	analytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Ashes	tos Structures:	NSD	/ NSD	Non-	-Asbestos Structures:	NSD	
Tilliary	, Total	113003	0.5 - 5.0 μm:	NSI		_			-
			>5.0μm:	NSI	)				
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 0.0	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
								Fraction of collection filter ashed:	0.25
	Place "x	c" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	
	Place "x	c" in bo	x if overloaded (>	>25%)	A 1	• D 4		Volume of dispersion filtered:	
			`	,	Analy	sis Data		* $(pcf) = possible$	le cleavage fragment
Grid	Pri	T	Structure F	Length	Width	T +	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
F8 E5			NSD						
E6			NSD						
E7			NSD						
E8			NSD						
E9			NSD						
E10			NSD						
C10			NSD						
C9			NSD						
C8			NSD						
C7			NSD						
C6			NSD						
F10 G5			NSD						
G4			NSD						
G3			NSD						
G2			NSD				<del> </del>		
G2 G1			NSD				1		
II			NSD				1		
12			NSD						
I3			NSD						
I4			NSD			1			
I5			NSD			1			
1.7			1100			+			
	0	0						0	
† Must conf			ogy, SAED. and	EDXA for each	suspect asbestos fib	er		Prep Quality:	
Record vis	ible pro	minent	Chrysotile DP re	flections (002,0	004, 110, 130, 220, 2			Dissolution	GOOD
			tained Y/N). Prin					Carbon Film	FAIR
*** Characteriz			ENTATION MAI	` •	tical Electron Microso	cope)		Loading	1%
								A1. D	M St
Comments:								Analyzed By: Reviewed By:	

Client Name		The I	& R Group - T	Technical Serv	rices An	alysis Date:		IATL Sample #:	
Client Proje					L	08/06/20	J	Client Sample #:	
Sample Typ QC Submitt		ISO	10312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #: Grid Archive ID #:	
†AEM ID:			JEOL, JEM-1	230 FM18440	0033 EVEX			Old Alchive ID #.	3030
		arv Fil	ter Dia. (mm²):			Filter Dia. (mm²):	n/a		
			ry EFA (mm²):		•	ndary EFA (mm²):	n/a		
			ary Filter Type:			ondary Filter Type:	n/a	Magnification:	20,000X
F	rimary		Pore Size (µm):		•	er Pore Size (µm):	n/a	Accelerating Voltage:	
•						· · · · · · · · · · · · · · · · · · ·		Accelerating voltage.	TOOKEV
			(	Grid Opening:	0.115 mm	Volu	ame of Air Sampled:	4809	Liters
				opening Area:	0.0130 mm <sup>2</sup>				
		Grid	Openings Read	/(Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total A	rea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
	/		_	2100	/ NGD				
Primary	//Total	Asbes	stos Structures:	NSD	/ NSD	- Non-	Asbestos Structures:	2	_
			0.5 - 5.0 μm; >5.0μm;	NSI NSI					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	7.3	s/mm²
			Asbestos:	·	0.00029 s/cc		Non-Asbestos:	0.00059	s/cc
L			w			***************************************		Fraction of collection filter ashed:	-
	Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	
<u> </u>	Place ":	x" in bo	x if overloaded (	>25%)				Volume of dispersion filtered:	40
L			,		Analysi	is Data		•	le cleavage fragment
Grid	Pri	Ħ	Structure F	Length	Width	+	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
S6 C6	1		NSD						
C5			NSD						
C4			NSD						
C3			NSD						
C2			NSD						
C1			NSD						
EI			NSD						
E2			F	1	0.2			SiAl - Other Fiber	
E3		<u> </u>	F	13	2.5			SiAl - Other Fiber	
E4		ļ	NSD						
E5	<u> </u>		NSD						
S8 D5		<u> </u>	NSD						
D4	-	<del>                                     </del>	NSD						
D3	-	<del> </del>	NSD						
D2 D1	<del> </del>		NSD NSD						
BI	<u> </u>	<del>                                     </del>	NSD						
B2	<del> </del>	<del> </del>	NSD						
B3	<b> </b>		NSD						
B4	<u> </u>		NSD						
B5		l	NSD						
	T	T							
	0	0		7.0				2	
	_	_			suspect asbestos fiber			Prep Quality:	
					004, 110, 130, 220, 200	))		Dissolution	GOOD
** Define Ar			otained Y/N). Prir		attach. ical Electron Microsco	pe)		Carbon Film Loading	FAIR 7%
			ENTATION MAI			. /		Louing	
Comments:						***************************************		Analyzed By: Reviewed By:	

Client Name:		The L	& R Group - T	echnical Serv	ices	Analysis Date:		IATL Sample #:	7042326-REP
Client Projec						08/06/20		Client Sample #:	12
Sample Type		ISO 1	0312, Ambient	t Air Deter	mination of Asb	estos Fibres		IATL Grid Box #:	2071
QC Submitta								Grid Archive ID #:	S10T1
<sup>†</sup> AEM ID:			JEOL, JEM-12	····					
	Prim		er Dia. (mm²):	25		ary Filter Dia. (mm²):	n/a		
			y EFA (mm²):	385		econdary EFA (mm²):	n/a		
			ry Filter Type:	MCE		econdary Filter Type:	n/a	Magnification:	20,000X
Pi	rimary l	Filter P	ore Size (µm):	0.8	Secondary I	Filter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ıme of Air Sampled:	4809	Liters
			Grid o	pening Area:	$0.0130 \text{ mm}^2$				
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Ashes	tos Structures:	NSD	/ NSI	) Non-	Asbestos Structures:	5	
	, rotal	7 10000	0.5 - 5.0 μm:	NSI		******		-	-
			>5.0μm:	NSI					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	18.3	s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	0.00147	s/cc
<u> </u>			•					Fraction of collection filter ashed	0.25
	Place ":	x" in bo	x if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	
	Place ":	x" in bo	x if overloaded (>	>25%)	4 1	. 75. 4		Volume of dispersion filtered:	
***************************************	-J				Analy	sis Data		* (pcf) = possib	le cleavage fragment
Grid	Pri	=	Structure F	Length	Width	4	**	***	μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
S10 C5		<del></del>	М	0.5	0,1			SiAl - Other Fiber	
			М	2.5	0.3	****		SiAl - Other Fiber	
C4			F	2.5	0.3			SiAl - Other Fiber	
C3			NSD						
C2			NSD						
C1			NSD	***************************************					
El			NSD						
E2			NSD						
E3			NSD	***************************************	***************************************				
E4			NSD						
E5	<u> </u>		NSD						
E6			NSD					***************************************	
T1 F6			NSD						
F7	1		NSD						
F8			В	4.5	0.5			CaS - Gypsum	
F9			NSD					**************************************	
F10			NSD						
D10			NSD						
D9			NSD						
D8			NSD						
D7			М	1	0.2			SiAl - Other Fiber	
D6			NSD						
	0	0					1945 (1946) 1947 (1946)	5	
•		•			suspect asbestos fi			Prep Quality:	
					004, 110, 130, 220,	200)		Dissolution	GOOD
** Define Ar			otained Y/N). Prin		attach. tical Electron Micro	scope)		Carbon Film Loading	GOOD 7%
			ENTATION MAI			1 ,		L~~~~~	
Comments:			***************************************				**************************************	Analyzed By: Reviewed By:	



Client Name:		The L	& R Group - Te	echnical Servi	·····	alysis Date:		IATL Sample #:	LB
Client Project					L	08/06/20		Client Sample #:	LB
Sample Type:		ISO 10	312, Ambient	Air Detern	nination of Asbesto	s Fibres		IATL Grid Box #: Grid Archive ID #:	2071 T3
QC Submittal			JEOL, JEM-12	20 EM19440	033 EVEX			GNU AIGHVE ID #.	13
AEM ID:						Filter Dia. (mm²):	n/a		
		-	r Dia. (mm²):	25					
			y EFA (mm²): _	385		ndary EFA (mm²):	n/a	M 10	30 000V
_			y Filter Type:	MCE		ndary Filter Type:	n/a	Magnification:	20,000X
Pr	ımary I	ilter Po	ore Size (µm):	0.8	Secondary Filt	er Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	me of Air Sampled:	0	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		_		
		Grid C	penings Read	/(Required):	10	Minim	um Detection Limit:	NA	s/cc
			Total Are	ea Analyzed:	0.130 mm <sup>2</sup>	A	nalytical Sensitivity:	7.69	s/mm^2
Primary	/ Total	Asbest	os Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSE					
			>5.0μm:	NSD			Non Astronom	. 77	almma2
			Asbestos:		7.7 s/mm² NA s/cc		Non-Asbestos: Non-Asbestos:	NA	s/mm² s/cc
			Asbestos:		NA s/cc		Non-Assestos.	Fraction of collection filter ashed:	0.25
	Dlace "s	" in hos	c if analysis "on-l	aold"				Volume (mls) used for ash dispersal:	40
<u> </u>	!		if overloaded (>					Volume of dispersion filtered:	
L	r face /	111 002	t ii overloaded (>	2370)	Analys	is Data		·	e cleavage fragment
Grid	20		Structure F	Length	Width		4.4	***	μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
<u> </u>			NSD						
T3 I1			NSD						
13	<b></b>		NSD						
13 14	ļ		NSD						
15			NSD						
16			NSD						
17			NSD						
18			NSD						
I9			NSD						
110			NSD						
		<u> </u>							
	<u> </u>	<u> </u>							
ļ	<u> </u>								
	<del>                                     </del>								
ļ	<b>-</b>	-	<u> </u>			-	<u> </u>		
	├	-							
	<del> </del>	╂	<del> </del>			<u> </u>			
	<del> </del>	<del> </del>				1			<u> </u>
	<del>                                     </del>	<del>                                     </del>		<b></b>					
	0	0						0	
† Must con	A CONTRACTOR		logy, SAED, and	EDXA for each	h suspect asbestos fibe	r	The second secon	Prep Quality:	
Record vi	sible pro	minent	Chrysotile DP re	flections (002,	004, 110, 130, 220, 20			Dissolution	GOOD
			otained Y/N). Pri	nt-out EDS and	attach. tical Electron Microsc	one)		Carbon Film Loading	GOOD <1%
*** Character			ENTATION MA		tical Election Iviicrosc	ope)		Luaung	~170
Comments:	110							Analyzed By Reviewed By	



Client Name:		The L	& R Group - T	echnical Serv	ices Ar	nalysis Date:		IATL Sample #:	LB
Client Projec	t #:					08/06/20		Client Sample #:	LB
Sample Type	:	ISO 1	0312, Ambien	t Air Deter	mination of Asbest	os Fibres		IATL Grid Box #:	2077
QC Submitta								Grid Archive ID #:	G1
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	/ Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a		
			ry Filter Type:	MCE		ondary Filter Type:	n/a	Magnification:	20,000X
Pr	imary I		ore Size (µm):	0.8		ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
								Trovolorum 5 Totage.	10010
			G	irid Opening:	0.115 mm	Volu	ime of Air Sampled:	0	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>				
		Grid (	Openings Read	/ (Required):	10	Minim	um Detection Limit:	NA	s/cc
			Total Ar	ea Analyzed:	$0.130 \text{ mm}^2$	A	nalytical Sensitivity:	7.69	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSI	)	-	•		•
			>5.0µm:	NSI	)				
			Asbestos:	<	7.7 s/mm <sup>2</sup>		Non-Asbestos:	< 0.0	s/mm²
			Asbestos:		NA s/cc		Non-Asbestos:	NA	s/cc
								Fraction of collection filter ashed:	0.25
	Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal:	40
	Place ":	x" in bo	x if overloaded (>	>25%)	Analys	ic Doto		Volume of dispersion filtered:	40
7					Anaiys	is Data		* (pcf) = possibl	e cleavage fragmen
Grid	Pri	17	Structure F	Length	Width	<b>†</b>	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μm	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
GI BI		<del> </del>	NSD		<del></del>				
B2		t	NSD						
B3			NSD						
B4			NSD						
B5		<b>†</b>	NSD						
B6		╅	NSD						
B7		<del> </del>	NSD		***************************************				
B8		<del> </del>	NSD			<del>                                     </del>			
B9		<del> </del>	NSD						
B10		$\vdash$	NSD						
810		<del>                                     </del>	NoD			<del> </del>			
		<del> </del>				1			
	<b></b>	<del> </del>							
		<del> </del>							
		$\vdash$							
		<del> </del>				-		<u></u>	
	<b> </b>	<del> </del>		<del></del>					
		<del> </del>						***************************************	
		-							
		<del> </del>						**************************************	
	<b></b>	<del> </del>			1.2.2	1			
		<del> </del>							
	· ·								
	0	0	0.1		-	1		0	
					n suspect asbestos fibe 004, 110, 130, 220, 20			Prep Quality: Dissolution	COOD
			tained Y/N). Pri			···)		Carbon Film	GOOD FAIR
*** Characteri	ze by El	OS		1 AEM (Analyt	tical Electron Microsco	ope)		Loading	<1%
SEE REVERSE	E: FIBE	R ORII	ENTATION MA	P					
Comments:					······································			Analyzed By: Reviewed By:	



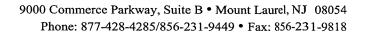
Wrong Number of Samples Listed

9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449

Email: customerservice@iatl.com

## BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308			Ba	atch Number:	617671
Customer:	The L & R Gro 680 South Prog Meridian ID	oup - Technical Ser- gress Ave 2A	vices	Pr	roject: roject Number: AT:	Mountain Home AFB 200050T 5 Day
Customer Rep:	Shirley Clark					July
# of Samples:	15	Analysis:	TEM - ISO 10312		ate/Time Recd: ate/Time Due:	08/06/2020 8:33 AM 08/13/2020 5:00 PM
Client Notes:	N/A	***************************************		<del>V7.0 min. m.s. sauces, s. s. s</del>		
Lab Technician Note	es: N/A					
Accounting Notes:	N/A					
Report Processing N	otes: N/A					
				······································		
bagged. Air Cassette contaminatio Samples reco Sample cont Paperwork re No / Incomp No / Incomp Sample conte No Turnarou	re not received in some received open is control of the control of	th dustpossible crecontents spilledpc ne bag as samples pstody Received. Received. match the client's said.	ossible cross contamination.  possible contamination.  ample log.		Analysis Acl TEM Prep TEM - ISO 103	
portion of fil Blank (s) not Minimum sh Other:   Batch Erro Wrong Clien Wrong Proj Wrong Turn Wrong Due I Wrong Date	ter removed.  It submitted as reciping requirement  OF:  It ID Listed  It Location Listed  Around Time Lis	uired by the request this not attained. Se NCS frovided,	previously opened and sted analytical method. see attached Carrier Air Bill. Lab Blank's prepared all	1095ide 5 Lo —— Sai —— Sai —— Du	ogin Error: mple Log Stamped mple Containers M	fislabeled nples Not Stamped





# **Chain of Custody**

-Airborne Asbestos -

	7 Kirborne 7	iso <b>c</b> stos								
Contact Informa	ation									
Client Company:	The L&R Group	Project Number:	200050T							
Office Address:	680 S. Progress Ave.	Project Name:	Mountain Home AFB Laurie Kuther 208.813.7700							
City, State, Zip:	Meridian	Primary Contact:								
Fax Number:		Office Phone:								
Email Address:	Laurie@Irenviro.com	Cell Phone:								
Matrix/Method:										
PCM: NIOSI	H 7400									
□ PCM: OSHA ID-160										
☐ TEM: NIOSI	☐ TEM: NIOSH 7402									
	A 40 CFR 763									
✓ TEM: ISO 10312										
☐ TEM: ISO 13										
Special Instructi	ons:									
****										
Turnaround Tir										
Preliminary Results Re	equested Date:Specific date / time	<b>L</b> Verba	al 🗆 Email 🗀 Fax							
	Specific date / time  10 Day	nov* [] 12 Hove** []	CHOWAX DIGIIXX							
	O Day Lib Day Lib Day Lib Day	ay Land 12 Hour Land	o Hour LI KUSH							
* End of next	business day unless otherwise specified. ** Matrix	x Dependent. ***Please n	otify the lab before shipping***							
			**************************************							
Chain of Custod	<del></del>		of the second o							
	ne/Organization): L&R Group	Date: 8/05/2020	Time: 1400							
Received (Name /		Date:	Time:							
Sample Login (Nan	/		Time:							
Analysis(Name(s) QA/QC Review (N		Date: <u>2/7/20</u> Date:	Time:							
	d: QA/QC InterLAB Use:		Time:AUG6_2029/							
I Monity out / Notedasc	2.0									
	area Box SILIZA									



# Sample Log

-Airborne Asbestos -

Client: L&R Group	Project: 200050T
Sampling Date/Time: 8/5/2020	

Client Sample #	iATL#	Location/ Description	Flow Rate	<u>Start</u> End	Sampling time (min)	Area (ft2) Volume (L)	Results ( )
01	7045849	LR-043	7LPM	10:35 am 10:02 pm	687	4800	
02	7045850	LR-043	7LPM	10:44am	687	4800	
03	7045851	LR-043	7LPM	10:49am 10:16pm	687	4800	
04	7045852	LR-043	7LPM	10:53am 10:20pm	687	4800	
05	7045853	LR-043	7LPM	10:4Upm	687	4800	
06	7045854	LR-043	7LPM	11:06 am 10:33pm	687	4800	
07	7045850	LR-043	7LPM	11:34am 11:01pm	687	4800	
08	7045856	LR-043	7LPM	11:17pm	687	4800	
09	7045857	LR-043	7LPM	11:57am 11:24pm	687	4800	
10	7045858	LR-043	7LPM	11.2.15.16	687	4800	
11	7045080	LR-043	7LPM	12:17pm 11:44pm	687	4800	
12	70458 <b>59</b> 70458 <b>6</b> 0	LR-043	7LPM	12:24pm 11:53pm	687	4800	
13	7045861	LR-043	7LPM	11:30 <u>am</u> 10:57pm	687	4800	
14	7045862	LR-043	7LPM	12:25pm 11:52pm	687	4800	
15	7045863	LR-043	7LPM	12:32pm 11:59pm	687	4800	

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

\*\* = Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible

FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



# FINAL RESULTS Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617671
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	: 5 Days
Client Contacts	:	Laborator	y Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custod	ly:			
Samples Taken in I	•	Date:		Time:
Samples Rec'd at L	aboratory: L. D'Ornellas	Date:	8/6/20	Time:
Samples Prepped:	B. Reich	Date:	8/6/20	Time:
Samples Analyzed:	M. Stewart	Date:	8/7/20	Time:
Preliminary Results	Faxed:	Date:		Time:
Preliminary Results	E-Mail:	Date:		Time:
		Sum	mary Data	
		Transmission 1	Electron Microscopy	y

### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Total Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
1	7045849	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
2	7045850	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
3	7045851	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
4	7045852	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
5	7045853	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
6	7045854	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
7	7045855	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
8	7045856	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes of	1 1 GIId	l Box #:	2077
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications	of structures identified.	-	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes a	as a function of the volume of air		
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Sun	ımary Page. 7 - For all Instrument	t (I, II, III):	III
structures >5µm in length.			

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

Client Name:		The L	& R Group - T	echnical Serv	<u>ices</u>		alysis Date:	1	IATL Sample #:	7045849
Client Projec						L	08/07/20	]	Client Sample #:	
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination	of Asbesto	os Fibres		IATL Grid Box #:	2077
QC Submitta			IFOL IFM 12	120 F141044	2022	CVCV			Grid Archive ID #:	G5G'
AEM ID:		1711.	JEOL, JEM-12		······································	EVEX	711. D' ( 2)			
		-	er Dia. (mm²):	25	;		Filter Dia. (mm²):		-	
			ry EFA (mm²):	385			ndary EFA (mm²):		_	
			ry Filter Type:	MCE			ondary Filter Type:		Magnification:	
Pr	imary l	Filter P	ore Size (µm):	0.8	Seco	ındary Filt	er Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	irid Opening:	0.115	mm	Vol	ume of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130	mm²		•		
		Grid (	Openings Read		21	•	Minin	num Detection Limit	0.0003	s/cc
				ea Analyzed:	0.273	mm <sup>2</sup>		Analytical Sensitivity:	***************************************	s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/	NSD	Non	-Asbestos Structures:	NSD	
			0.5 - 5.0 μm:	NSI	)		•			-
			>5.0µm:	NSI	)	•				
			Asbestos:	<	3.7	s/mm <sup>²</sup>		Non-Asbestos:	< 3.7	s/mm²
			Asbestos:	<	0.00029	s/cc		Non-Asbestos:	< 0.00029	s/cc
	*******	*****			***************************************				Fraction of collection filter ashed	0.25
	Place ":	k" in bo	x if analysis "on-l	hold"					Volume (mls) used for ash dispersal	40
	Place ":	x" in bo	x if overloaded (>	>25%)	A	na kraj	ia Data		Volume of dispersion filtered	
	-				P	maiysi	is Data		* (pcf) = possib	le cleavage fragmen
Grid	Prí	To	Structure F	Length	W	idth	+	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μ	m	† Chrysotile	Amphibole	Non-Asbestos	or Comments*
G5 G6			NSD							
G5			NSD			***************************************				
G4		<del>                                     </del>	NSD							
G3		<b>†</b>	NSD							
G2		<b> </b>	NSD					-		
GI		<del>                                     </del>	NSD							
EI			NSD							
E2		<del> </del>	NSD						<u> </u>	
E3		<del> </del>	NSD				<u> </u>			
E4		<del> </del>	NSD							
E5			NSD				<b> </b>	<del> </del>		
G7 A5		<del> </del>	NSD							
A6		<b>-</b>	NSD							
A7	<b></b>	<b></b> -	NSD							
A8		<b></b>	NSD							
A9			NSD		······································					
A10	<del> </del>	<u> </u>	NSD				<u> </u>			
C10			NSD							
C9	<b></b>	<del>                                     </del>	NSD				1			
C8		<del> </del>	NSD							
C7	<b></b>	<del>                                     </del>	NSD				<del> </del>	1		
<b>-</b>	<del>                                     </del>	<del>                                     </del>	1,00					<del>                                     </del>		
	0	-0							0	
† Must conf	1000002010000		logy, SAED, and	EDXA for each	n suspect as	bestos fiber			Prep Quality:	1
Record vis	ible pro	minent	Chrysotile DP re	flections (002),	004, 110, 1				Dissolution	GOOD
			otained Y/N). Prin						Carbon Film	FAIR
*** Characteri			ENTATION MAI	1 AEM (Analy	ncal Electro	n Microsco	ope)		Loading	1%
	. PIDE	OKII	SITTATION IVIA	•						
Comments:						···			_ Analyzed By Reviewed By	
									Keviewed by	

IA1	rL	International Asbestos Testing Laboratories
		lesting Laboratories

Client Name: Client Project		The I	0 D.C		·				
	t #:	THE C	æ K Group - 1	echnical Serv	ices Ar	08/07/20		IATL Sample #: Client Sample #:	7045850
Sample Type:		ISO 1	0312. Ambien	t Air Deter	 mination of Asbest			IATL Grid Box #:	2077
QC Submittal			,					Grid Archive ID #:	G9H2
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ry Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
			y EFA (mm²):	385		ondary EFA (mm²):	n/a		
			ry Filter Type:	MCE		ondary Filter Type:	n/a	Magnification:	20,000X
Pri	imary F		ore Size (µm):	0.8		ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	me of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>				
		Grid (	Openings Read	/(Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	Α	nalytical Sensitivity:	3.66	s/mm^2
	,								
Primary /	Total	Asbes	tos Structures:	NSD	/ NSD	Non	Asbestos Structures:	3	•
			0.5 - 5.0 μm:	NSI					
			>5.0μm:	NSI	······································				
			Asbestos:		3.7 s/mm <sup>3</sup>		Non-Asbestos:	11.0	s/mm²
<u> </u>			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00088	s/cc
	<b>D.</b>							Fraction of collection filter ashed:	
<u> </u>			k if analysis "on-l					Volume (mls) used for ash dispersal:	40
L] <sup>1</sup>	Place "x	" in bo	x if overloaded (>	>25%)	Analys	is Data		Volume of dispersion filtered:	40
T				11		T		(pci) = possibi	e cleavage fragmen
Grid	Primary	Total	Structure F	Length	Width µm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Į.	2	ВМС	μm	μm	Chrysothe	Amphibole	1 TON-ASDESTOS	or Comments*
G9 C6			M	1.7	0.3			SiAl - Other Fiber	
C7			NSD						
C8			NSD						
C9			NSD						
C10			NSD						
E10			NSD						
E9			NSD						
E8			NSD						
E7			NSD						
E6			NSD						
E5			NSD						
H2 D5			NSD						
D4			M	0.6	0.1			SiAl - Other Fiber	
D3			NSD						
D2			NSD						
D1			F	3	0.5			SiAl - Other Fiber	
F1			NSD						
F2			NSD						
F3			NSD						
F4			NSD						
F5			NSD						
	0	0						3	
					suspect asbestos fibe			Prep Quality:	
					004, 110, 130, 220, 20	0)		Dissolution	GOOD
** Define Amp			tained Y/N). Prir		attach. ical Electron Microsco	ope)		Carbon Film Loading	GOOD 5%
						. ,		1	270
SEE REVERSE:	; FIBE	K OKII	ENTATION MAI						
	: FIBE	KOKII	ENTATION MAI					Analyzed By:	M. Stewart

Client Name:		The L	& R Group - T	echnical Servi	ices	An	08/07/20		IATL Sample #: Client Sample #:	7045851 3
Sample Type		ISO 1	0312, Ambient	Air Deter	ا mination c	f Ashest	os Fibres		IATL Grid Box #:	2077
QC Submitta		1001	······································	20101			1.0.00		Grid Archive ID #:	
†AEM ID:			JEOL, JEM-12	30, EM18440	0033	EVEX				
		arv Filt	er Dia. (mm²):	25			Filter Dia. (mm²):	n/a		
			ry EFA (mm²):	385		•	ondary EFA (mm²):			
			-						Magnification:	20,000X
, n	·		ry Filter Type:	MCE	C		ondary Filter Type:	·····	·	*
Pr	imary i	inter P	ore Size (µm):	0.8	Seco	ngary riii	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115	mm	Vol	ume of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130	mm <sup>2</sup>			***************************************	•
		Grid (	Openings Read	/ (Required):	21		Minim	num Detection Limit:	0.0003	s/cc
			-	ea Analyzed:	0.273	mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
						******				•
Primary	/ Total	Asbes	tos Structures:	NSD	1	NSD	Non-	Asbestos Structures:	3	
			0.5 - 5.0 μm:	NSI	)		-			-
			>5.0µm:	NSI	)					
			Asbestos:	<	3.7	s/mm <sup>¹</sup>		Non-Asbestos:	11.0	s/mm²
			Asbestos:	<	0.00029	s/cc		Non-Asbestos:	0.00088	s/cc
<u> </u>									Fraction of collection filter ashed	0.25
	Place "	k" in bo	x if analysis "on-l	hold"					Volume (mls) used for ash dispersal	
	Place ":	x" in bo	x if overloaded (>	>25%)			• D. (		Volume of dispersion filtered	
<b>L</b>	'				A	naiys	is Data		* (pcf) = possib	le cleavage fragmen
Grid	Pri.	=	Structure F	Length	Wi	dth	1 .	**	***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μι	n	† Chrysotile	Amphibole	***Non-Asbestos	or Comments*
H4 G5			NSD							
G6	<b></b>	<del> </del>	NSD							
G6 G7		├	NSD							
G8		<del> </del>	NSD							
G9		-	1							
			NSD F	0.7					SiAl - Other Fiber	
G10		╂──		0.7	0.	1		<b>-</b>	SIAI - Other Fiber	
E10		<u> </u>	NSD							<u> </u>
E9		<del> </del>	NSD							
E8		├	NSD				<del></del>			
E7		╂	NSD							
E6		┼──	NSD					<u> </u>		
H6 F5			NSD				<u> </u>			
F4	<b></b>	<del> </del>	NSD					<u> </u>	CIAL Office Ether	
F3		<del> </del>	M	3	0.	3			SiAl - Other Fiber	
F2	<b> </b>	├	NSD				-			<u> </u>
F1	<u> </u>	<del> </del>	NSD				-			
D1	<del> </del>	<del> </del>	NSD							
D2	<b> </b>	<del> </del>	NSD							
D3	<b>-</b>	<del> </del>	NSD			^			0'41 0" ""	
D4	<u> </u>	<del> </del>	F	1.6	0.	5			SiAl - Other Fiber	
D5	<b> </b>	<del> </del>	NSD		<u></u>					
									3	
	0	0	0.22	rov: s		. ~.	1		L .	
			logy, SAED, and Chrysotile DP re						Prep Quality: Dissolution	GOOD
			otained Y/N). Prin			· v, 220, 20	,,,,		Carbon Film	GOOD
*** Characteri	ze by El	DS		1 AEM (Analy		n Microsc	ope)		Loading	5%
SEE REVERSI	≟: FIBE	ER ORI	ENTATION MA	P						
Comments:			***************************************				·····	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Analyzed By	
									Reviewed By	



Client Name:		The L	& R Group - T	echnical Serv	ices A	Analysis Date: 08/07/20		IATL Sample #: Client Sample #:	7045852 4
Sample Type	::	ISO 1	0312, Ambien	Air Deter	mination of Asbe	stos Fibres		IATL Grid Box #:	2077
QC Submitta			,					Grid Archive ID #:	H8H10
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	30, EM18440	0033 EVEX				
		arv Filt	er Dia. (mm²):	25		ry Filter Dia. (mm²):	n/a		
			y EFA (mm²):	385		condary EFA (mm²):	n/a		
			ry Filter Type:	MCE				Manuiciantian	20 0002
D.						econdary Filter Type:	n/a	Magnification:	20,000X
L P	imary i	·mer P	ore Size (µm):	0.8	Secondary F	ilter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		•
		Grid (	Openings Read		21	Minim	um Detection Limit:	0.0003	s/cc
			-	ea Analyzed:	0.273 mm <sup>2</sup>		nalytical Sensitivity:		s/mm^2
			7044.74				marytical School vity.	3.00	•
Primary	/ Total	Ashes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	2	
			0.5 - 5.0 μm:	NSI	)				•
			>5.0μm:	NSI					
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos:	7.3	s/mm²
			Asbestos:		0.00029 s/cc		Non-Asbestos:	0.00059	s/cc
	***************************************	······································						Fraction of collection filter ashed:	
Γ	Place ">	" in bo	x if analysis "on-l	nold"				Volume (mls) used for ash dispersal:	
<u> </u>	(		x if overloaded (>					Volume of dispersion filtered:	10
L	1	00.	(*****************************	2070)	Analy	sis Data		•	e cleavage fragment
Grid	72		Structure F	Length	Width				μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	**Amphibole	***Non-Asbestos	or Comments*
	<u> </u>			2.5	0.5				or Comments
H8 G5	<b> </b>		F	3.5	0.5			SiAl - Other Fiber	
G6	ļ	<u> </u>	NSD						
G7	<b></b>	<b>.</b>	NSD						
G8			NSD						
G9			NSD						
G10	<u> </u>		NSD						
110	ļ		NSD						
19			NSD						
18			М	2.2	0.4			SiAl - Other Fiber	
17	<u> </u>		NSD			:			
16			NSD						
H10 H6			NSD						
H7			NSD						
H8			NSD						
H9	<u> </u>		NSD						
H10		<u> </u>	NSD						
F10			NSD						
F9			NSD						
F8			NSD						
F7			NSD						
F6			NSD						
	0	0					p en en	2	
† Must conf	irm by N	/lorphol	ogy, SAED, and	EDXA for each	suspect asbestos fib	per		Prep Quality:	
Record vis	sible pro	minent	Chrysotile DP ret	dections (002,0	004, 110, 130, 220, 2			Dissolution	GOOD
** Define An  *** Characteri			tained Y/N). Prin		attach. ical Electron Micros	cone)		Carbon Film Loading	GOOD 5%
	-		ENTATION MAI	-	.ear Electron Wheles	eope)		Loading	970
								Analyzed By:	M. Stewart
Comments:			***************************************					Reviewed By:	IVI. SIEWAIT

Client Name: Client Projec		The L	& R Group - T	echnical Serv	ices /	Analysis Date: 08/07/20		IATL Sample #: Client Sample #:	7045853 5
Sample Type		ISO 1	0312, Ambien	t Air Deter	ــــــــــ mination of Asbe	estos Fibres		IATL Grid Box #:	2077
QC Submitta			,					Grid Archive ID #:	I113
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Seconda	ary Filter Dia. (mm²):	n/a	***************************************	
			y EFA (mm²):	385		condary EFA (mm²):	n/a		
			ry Filter Type:	MCE		econdary Filter Type:	n/a	Magnification:	20,000X
Pr	imary I		ore Size (µm):	0.8		Filter Pore Size (µm):	n/a	Accelerating Voltage:	
			G	irid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>				
		Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
					/ \			1100	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NSC	Non-	Asbestos Structures:	NSD	-
			0.5 - 5.0 μm:	NSI					
			>5.0µm:	NSI	<del></del> ,				
			Asbestos:		3.7 s/mm²		Non-Asbestos:		s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
<del></del>	l							Fraction of collection filter ashed:	0.20
<u> </u>			x if analysis "on-l					Volume (mls) used for ash dispersal:	••
L	Place ">	" in bo	x if overloaded (>	>25%)	Analy	sis Data		Volume of dispersion filtered:	
		T T		T			T	* (pci) = possib.	le cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	3,	<u> </u>	BMC	μm	μm	Cinysonic	Ampinoote	110II-Asbestos	or Comments*
11 D6			NSD						
D5			NSD						
D4			NSD						
D3			NSD						
D2			NSD						
D1			NSD						
FI			NSD						
F2			NSD						
F3			NSD						
F4			NSD						
F5			NSD						
I3 H5			NSD						
H4			NSD						
Н3			NSD						
H2			NSD						
HI			NSD						
J1			NSD						
J2			NSD						
J3			NSD						
J4			NSD					***************************************	
J5			NSD						
									<u> </u>
	0	0						0	
† Must conf	irm by N	/lorphol	ogy, SAED, and	EDXA for each	suspect asbestos fi	ber		Prep Quality:	
					004, 110, 130, 220,	200)		Dissolution	GOOD
** Define Am  *** Characteria			tained Y/N). Prir		attach. ical Electron Micro	scope)		Carbon Film Loading	FAIR 1%
	-		ENTATION MAI		Licenon iviicio:	p <del>-</del> )		Loaung	1 76
Comments:								Analyzed By:	M. Stewart
						· · · · · · · · · · · · · · · · · · ·		Reviewed By:	

			TODOTHIS BUDGE							
Client Name: Client Projec		The L	& R Group - T	echnical Servi	ices		alysis Date: 08/07/20		IATL Sample # Client Sample #	
Sample Type		ISO 1	0312, Ambient	Air Deter	mination o	f Asbeste	os Fibres		IATL Grid Box #	: 2077
QC Submitta									Grid Archive ID #	:
<sup>†</sup> AEM ID:			JEOL, JEM-12	<del></del>	<del></del>	EVEX				
		-	er Dia. (mm²):	25	S	-	Filter Dia. (mm²):			
			ry EFA (mm²):	385			ndary EFA (mm²):			
			ry Filter Type:	MCE			ondary Filter Type:		Magnification	
Pr	imary I	ilter P	ore Size (µm):	0.8	Seco	ıdary Filt	er Pore Size (µm):	n/a	Accelerating Voltage	: 100KeV
			G	rid Opening:	0.115	mm	Vol	ume of Air Sample	d: 4809	Liters
			Grid o	pening Area:	0.0130	mm²				-
		Grid (	Openings Read	/ (Required):	21		Minin	num Detection Limi	it: 0.0003	s/cc
			Total Ar	ea Analyzed:	0.273	mm²		Analytical Sensitivity		s/mm^2
Primary	/ Total	Asbes	tos Structures:	NSD	/	NSD	Non	-Asbestos Structure	s:5	_
			0.5 - 5.0 μm:	NSI						
			>5.0μm;	NSE		,				
			Asbestos:		~~~~~	s/mm		Non-Asbesto		_s/mm²
			Asbestos:	<	0.00029	s/cc		Non-Asbesto		_s/cc
f	ln "	.11 : 3	x if analysis "on-l						Fraction of collection filter ashe	0.20
	;		•						Volume (mls) used for ash dispersa Volume of dispersion filtere	10
L	Place 3	in bo	x if overloaded (>	23%)	A	nalysi	is Data			ole cleavage fragmen
Grid	20		Structure F	Length	Wie	lth	l .	T		μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μη	n	† Chrysotile	**Amphibole	***Non-Asbestos	or Comments*
	l -		NSD							+
15 H5 H6		ļ	F	7	0.	7			SiAl - Other Fiber	7045854-1
H7	<u> </u>		NSD		0.	<u>,                                      </u>			SIAI - Other Fiber	7043834-1
H8			F	5.5	1				SiAl - Other Fiber	
<b></b>			F	7.5	1.:				SiAl - Other Fiber	7045854-2
Н9			F	3.8	0.				SiAl - Other Fiber	
H10			F	1.8	0.		<u> </u>		SiAl - Other Fiber	
F10			NSD							
F9			NSD							
F8			NSD			***************************************				
F7			NSD							
F6			NSD							
17 D5			NSD							
D4			NSD							
D3			NSD							
D2			NSD							
DI			NSD							
FI			NSD							
F2			NSD							
F3			NSD							
F4			NSD							
F5			NSD							
	0	0							5	
•	-		logy, SAED, and		•				Prep Quality:	
			Chrysotile DP re- ptained Y/N). Prin			0, 220, 20	0)		Dissolution Carbon Film	GOOD
*** Characteri				AEM (Analy		Microsec	ope)		Loading	5%
			ENTATION MA	P					<b>L</b>	
Comments:									Analyzed By	
									Reviewed B	y:

Client Name: Client Projec		The L	& R Group - T	echnical Servi	ices Ai	nalysis Date: 08/07/20		IATL Sample #: Client Sample #:	7045855
Sample Type		ISO 1	0312, Ambient	t Air Deter	mination of Asbes		l	IATL Grid Box #:	2077
QC Submitta								Grid Archive ID #:	19J2
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ry Filt	er Dia. (mm²):	25	Secondary	y Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Seco	ondary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	Sec	ondary Filter Type:	n/a	Magnification:	20,000X
Pr	imary F	ilter P	ore Size (µm):	0.8	Secondary Fil	lter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
				:10 :	0.115	37.1	64.6	4000	T.'.
				rid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>			0.0000	
		Grid (	Openings Read	•	21		um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	Α	nalytical Sensitivity:	3.66	s/mm^2
D	/ T 1	4 . 1	4	NSD	/ NSD	Non	Asbestos Structures:	6	
Primary	/ Lotal	Aspes	tos Structures: 0.5 - 5.0 µm:	NSI	· · · · · · · · · · · · · · · · · · ·		Assessos Structures.	<u> </u>	-
			0.3 - 3.0 μm. >5.0μm:	NSI	***************************************				
			Asbestos:		3.7 s/mm <sup>1</sup>		Non-Asbestos:	22.0	s/mm²
			Asbestos:	<del></del>	0.00029 s/cc		Non-Asbestos:	0.00176	s/cc
			713003103.		0.00027 3/00	***************************************	11011-713003103.		-
<b></b>	Dinca "s	" in ho	x if analysis "on-l	hold"				Fraction of collection filter ashed	
			x if overloaded (>					Volume (mls) used for ash dispersal Volume of dispersion filtered	10
<u></u>	Place X	c in bo	x ii overioaded (>	23%)	Analys	sis Data		•	40 le cleavage fragmen
				Length	Width	T			μgraph/EDS ID
Grid Opening ID	Primary	Total	Structure F BMC	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	
	3			-					or Comments*
19 H5			F	2.3	0.3			SiAl - Other Fiber	
H6			NSD						
H7			M	3	0.5			SiMg - Talc	
H8			NSD						
H9			NSD						
H10			F	15	2			SiAl - Other Fiber	
F10		ļ	NSD						
F9			NSD						
F8			F	2	0.2			SiAl - Other Fiber	
F7			NSD						
F6			NSD						
J2 E5			NSD						
E4			NSD						
E3			F	1.7	0.1			SiAl - Other Fiber	
E2			NSD						
El	<u> </u>		NSD						
C1			NSD						
C2			F	1.5	0.3			SiAl - Other Fiber	
C3	ļ	<u> </u>	NSD						
C4		<u> </u>	NSD						
C5			NSD						
	-15301xxxxxx								
	0	0				<u> </u>		6	
					suspect asbestos fibe			Prep Quality:	000-
			Chrysotile DP restained Y/N). Pris		004, 110, 130, 220, 20 attach	00)		Dissolution Carbon Film	GOOD
*** Characteri					tical Electron Microsc	cope)		Loading	5%
SEE REVERSE	: FIBE	R ORII	ENTATION MA	P					
Comments:								Analyzed By	
								Reviewed By	

Client Name: Client Projec		The L	& R Group - T	echnical Serv	ices	Analysis Date: 08/07/20		IATL Sample #: Client Sample #:	7045856
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of Asb	estos Fibres		IATL Grid Box #:	2077
QC Submitta	l:							Grid Archive ID #:	J4J6
<sup>†</sup> AEM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX	ζ			
	Prima	ary Filt	er Dia. (mm²):	25	Second	lary Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	s	econdary EFA (mm²):	n/a	•	
		Prima	ry Filter Type:	MCE	S	Secondary Filter Type:	n/a	Magnification:	20,000X
Pr	imary I		ore Size (µm):	0.8		Filter Pore Size (µm):	n/a	Accelerating Voltage:	
				irid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>				
		Grid (	Openings Read	/ (Required):	21		um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
	7		_	NGD	/ NIC	D 11.	A.1. A. Cr. A.	3	
Primary	/ Total	Asbes	tos Structures:	NSD	/ NS	Non-	Asbestos Structures:	2	-
			0.5 - 5.0 μm:	NSI NSI	~~~~				
			>5.0µm:			2	Nian Antonian	7 3	-12
			Asbestos:		3.7 s/mm 0.00029 s/cc		Non-Asbestos: Non-Asbestos:	7.3	s/mm² s/cc
			Aspesios.		0.00029 S/CC		Non-Aspestos.		<del>.</del>
r	lт и		. 10 1 1	1 -140				Fraction of collection filter ashed	0.20
<del></del>	i		x if analysis "on-					Volume (mls) used for ash dispersal	
L	Place "	c" in bo	x if overloaded (>	>25%)	Anal	ysis Data		Volume of dispersion filtered	
[		T		T41	Width			(pci) – possio	le cleavage fragmen
Grid	Primary	Total	Structure F	Length µm	μm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Ź	<u> </u>	ВМС	μm	, , , , , , , , , , , , , , , , , , ,		,,	7.07.7356500	or Comments*
J4 F5			NSD						
F6			NSD						
F7			NSD						
F8			NSD						
F9			NSD						
F10			NSD						
D10			NSD						
D9			NSD						
D8			NSD						
D7			NSD						
D6			NSD						
J6 H5			NSD						
H4			NSD						
G3			NSD						
G2			F	3	0.6			SiAl - Other Fiber	
HI			NSD						
A3			M	1	0.1			SiAl - Other Fiber	
A4			NSD						
A5			NSD						
A6			NSD						
A7			NSD						
	0	0						2	
† Must conf	irm by I	Morpho	logy, SAED, and	EDXA for each	n suspect asbestos	liber		Prep Quality:	
					004, 110, 130, 220	, 200)		Dissolution	GOOD
** Define An  *** Characteri			otained Y/N). Pri		attach. tical Electron Micro	oscone)		Carbon Film Loading	FAIR 3%
			ENTATION MA		tion Licotron (viici)	ουσορο)		Loading	3/6
Comments:								Analyzed By	: M. Stewart
Comments:								Reviewed By	. IVI. SICWAIL



Client ID: L&R
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IATL Sample #:

7045854-1

EDXA ID: EDENITE?

Plate # Cam Length Exp. Time

Micrograph Plate # (if applicable):

0.6

60

Sketch of Structure Elemental Composition:

Na K 0.000 2530 5.147 6.344 0.053

**Mg K** 0.000 12453 17.781 20.730 0.197

**Al K** 0.000 4647 7.429 7.802 0.055

**Si K** 0.000 49214 56.110 56.610 0.500

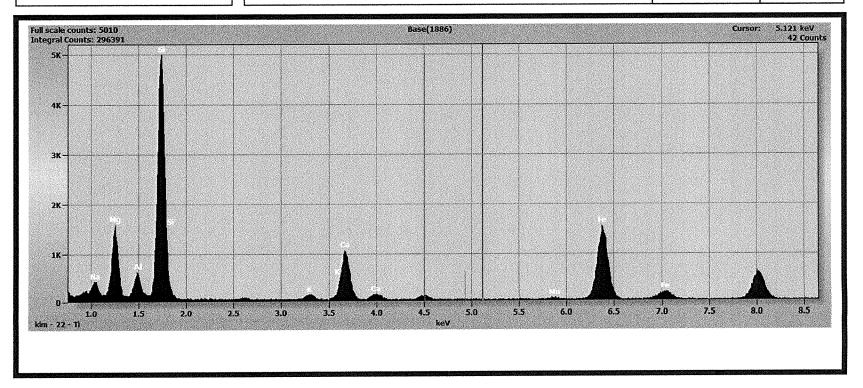
**KK** 0.000 1116 0.809 0.586 0.006

Ca K 0.000 13493 7.372 5.212 0.071

Fe K 0.000 24624 5.351 2.715 0.119

Elapsed LT:

sec.





Sketch of Structure

Client ID: L&R	
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IATL Sample #:

7045854-2

EDXA ID: SiAl?

Plate # Cam Length Exp. Time

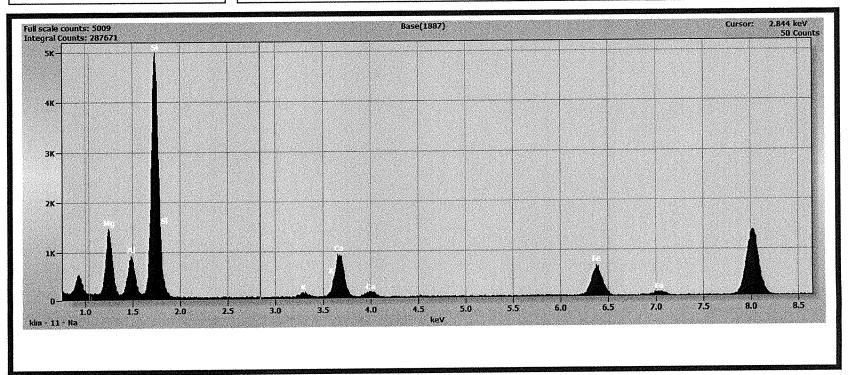
Micrograph Plate # (if applicable):

0.6

60

**Elemental Composition:** 

Element	Base(1887)	Base(1887)	Base(1887)	Base(1887)	Base(1887)
Mg K	0.000	13327	16.426	19.184	0.230
Al K	0.000	7686	11.703	12.312	0.100
Si K	0.000	48352	60.001	60.641	0.537
KK	0.000	1077	0.912	0.662	0.006
Ca K	0.000	12239	8.157	5.777	0.070
Fe K	0.000	10637	2.801	1.424	0.056 Elapsed LT: sec.





Client ID:	L&R
------------	-----

IATL Sample #:

7045855-1

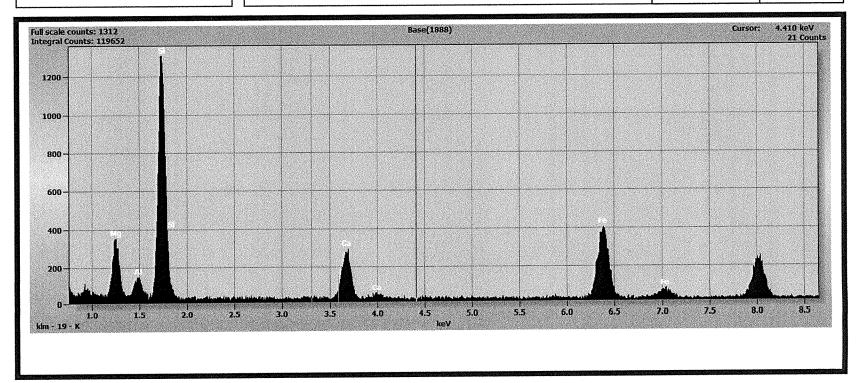
EDXA ID: SiAl?

Micrograph Plate # (if applicable):

Plate # Cam Length Exp. Time

Elemental Composition:

Sketch of Structure	Elemental Con	position:	<i>O</i> 1			
	Element B	ase(1888) Base(	(1888) Base(18	88) Base(188	88) Base(1888)	
	Mg K 0.	.000 2947	16.686	19.872	0.194	
	AlK 0.	.000 1102	7.131	7.650	0.054	
	Si K $0$	.000 12865	60.985	62.851	0.544	
	Ca K 0.	.000 3469	8.587	6.201	0.076	
	Ca L 0.	.000		AND REAL PROPERTY.		
	Fe K 0.	.000 6580	6.612	3.427	0.132 Elapsed LT:	sec.





## FINAL RESULTS

#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617671
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	5 Days
Client Contacts	:	Laborato	ry Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:	·	Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custo	dv·			
Samples Taken in	•	Date:		Time:
Samples Rec'd at I		Date:	8/6/20	Time:
Samples Prepped:		Date:	8/6/20	Time:
Samples Analyzed		Date:	8/8/20	Time:
Preliminary Result		Date:		Time:
Preliminary Result		Date:		Time:
<u> </u>				<del></del>
	-		ımary Data Electron Microscony	

## Transmission Electron Microscopy

### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Total Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
9	7045857	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
10	7045858	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7045859	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
12	7045860	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7045861	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
14	7045862	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
15	7045863	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2077
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.		
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
structures >5μm in length.		

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

	-4042		Testing Labor	atories					
Client Name	:	The L	& R Group - T	echnical Serv	ices Ar	alysis Date:		IATL Sample #:	7045857
Client Projec	t#:					08/08/20		Client Sample #:	9
Sample Type	:	ISO 1	0312, Ambient	Air Deter	mination of Asbest	os Fibres	•	IATL Grid Box #:	2077
QC Submitta								Grid Archive ID #:	J8J10
†AEM ID:	III		JEOL, JEM-12	30, EM18440					
	Prima	ıry Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
		Primai	y EFA (mm²):	385	Seco	ndary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	Sec	ondary Filter Type:	n/a	Magnification:	20,000X
Pı	rimary F	Filter P	ore Size (µm):	0.8	Secondary File	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		•
		Grid (	Openings Read	/(Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
Drimorr	/ Total	Achas	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	4	
i innaly	, iotal	ASDES	0.5 - 5.0 μm:	NSI	,	-	. 15005105 Officiales.	Ŧ	-
			>5.0μm:	NSI	***************************************				
			Asbestos:		3.7 s/mm²		Non-Asbestos:	14.7	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00117	s/cc
		····						Fraction of collection filter ashed:	0.25
	Place "x	" in bo	x if analysis "on-l	nold"				Volume (mls) used for ash dispersal:	. 40
	Place "x	" in bo	x if overloaded (>	25%)	Analys	is Data		Volume of dispersion filtered:	· -
	T	r	<del></del>					* (pcf) = possib	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Ş	<u> </u>	ВМС	μm	μm	Cirysothe	Amplitotic	Non-Aspestos	or Comments*
J8 G5			F	0.8	0.1			SiAl - Other Fiber	
G4		ļ	NSD						
G3			NSD						
G2		ļ	NSD					***************************************	
G1			NSD						
E1 E2		<b></b>	NSD NSD						
E3			F	1.8	0.3			CiAl Other Ciber	
E4	<b>-</b>	<b></b>	NSD	1.0	0.3			SiAl - Other Fiber	
E5			NSD		***************************************				
E6			F	0.7	0.1			SiAl - Other Fiber	
J10 F5			NSD						
F4			NSD						
F3			NSD						
F2			NSD						
F1			NSD						
HI			NSD						
H2	ļ	<b> </b>	M	1.5	0.2			SiAl - Other Fiber	
H3	ļ		NSD			<b>.</b>			
H4		<b> </b>	NSD		1111				
H5	<b> </b>	-	NSD						
	0	0						A	
	-	-			suspect asbestos fibe			Prep Quality:	
					004, 110, 130, 220, 20	0)		Dissolution	GOOD
** Define An			otained Y/N). Prir		attach. tical Electron Microsco	ope)		Carbon Film Loading	GOOD 5%
			ENTATION MAI	•				L	
Comments:								Analyzed By:	
								Reviewed By:	

Client Name: Client Projec	t #:	The L	& R Group - T	echnical Servi	ices		alysis Date: 08/08/20		IATL Sample # Client Sample #	
Sample Type		ISO 1	0312, Ambient	Air Deter	ے mination o	f Asbesto	s Fibres		IATL Grid Box #	
QC Submitta			,						Grid Archive ID #	
†AEM ID:			JEOL, JEM-12	230. EM18440	0033	EVEX				
		***************************************	er Dia. (mm²):	25			Filter Dia. (mm²):	n/a		
1		•	y EFA (mm²):	385	Ŭ	-	ndary EFA (mm²):			
			· .				ndary EFA (mm). ondary Filter Type:	******		n: 20,000X
			ry Filter Type:	MCE	0		, ,,		Magnification	-
l Pr	ımary i	·ilter P	ore Size (µm):	0.8	Seco	idary Filt	er Pore Size (µm):	n/a	Accelerating Voltage	e: 100KeV
	····		G	rid Opening:	0.115	mm	Vol	ume of Air Sampled	: 4809	Liters
				pening Area:	0.0130	mm²				<del></del>
		Grid (	Openings Read	· · · · ·	21		Minin	num Detection Limi	0.0003	s/cc
		0.10		ea Analyzed:		mm²		analytical Sensitivity	··	s/mm^2
			1 Otal Al	ca Allaiyzcu.	0.273	111111	r	diarytical Schsitivity		- Jillii 2
Drimary	/ Total	Achor	tos Structures:	NSD		NSD	Non	-Asbestos Structures	; 2	
Filliary	/ I Olai	ASDES	0.5 - 5.0 um:	NSE	<del> </del>					
			>5.0μm:	NSI						
			Asbestos:			s/mm <sup>²</sup>		Non-Asbestos	s: 7.3	s/mm²
			Asbestos:		<del></del>	s/cc		Non-Asbestos		s/cc
			Asocsios.		0.00027			Tron 7130CSto.	Fraction of collection filter ash	
г	Diago "	ull in ha	v if analysis "on I	hald"					Volume (mls) used for ash dispers	0.20
	:		x if analysis "on-						Volume (mis) used for ash dispers  Volume of dispersion filter	
	Place ":	x" in bo	x if overloaded (>	>25%)	$\mathbf{A}$	nalysi	is Data		•	ble cleavage fragmen
T		Τ.	I .	Length	Wie		i	T	T (per) possi	μgraph/EDS ID
Grid	Primary	Total	Structure F	μm	μr		† Chrysotile	**Amphibole	***Non-Asbestos	
Opening ID	Ą	<u> </u>	BMC	peni						or Comments*
K2 G6		<u> </u>	NSD							
G7			NSD							
G8		<u> </u>	NSD							
G9			F	3	0.	5			SiAl - Other Fiber	
G10			NSD							
E10			NSD							
E9			NSD							
E8			F	7	1.	2			SiAl - Other Fiber	
E7			NSD							
E6			NSD							
E5		1	NSD							
K4 F5			NSD							
F6			NSD		<u> </u>	***************************************				
F7			NSD							
F8		1	NSD		<b> </b>					
F9		T	NSD				1			
F10	<u> </u>	1	NSD			······································				
D10		T	NSD							
D9	<del>                                     </del>	<del>                                     </del>	NSD							
D8	<del>                                     </del>	1	NSD				<u> </u>			
D7	<del>                                     </del>	t	NSD	<u> </u>	<b>†</b>		<u> </u>			
	<del> </del>	╁──	NSD					1		
	0	10							2	
+ Must son			logy, SAED, and	EDXA for and	h cueneat ac	nestos fiha			Prep Quality:	
•	•	•	Chrysotile DP re		-				Dissolution	GOOD
** Define Ar	nphibol	e (DP ol	btained Y/N). Pri	nt-out EDS and	l attach.		•		Carbon Film	GOOD
*** Character			F3 FF & TF ( )	AEM (Analy	tical Electro	n Microsco	ope)		Loading	4%
SEE KEVERS	c; riBi	EK UKI	ENTATION MA	ır						
Comments:									Analyzed E	
									Reviewed E	ъу

	ıt Name: ıt Projec		The L	& R Group - T		ces Ar	1alysis Date: 08/08/20		IATL Sample #: Client Sample #:	7045859
	nt Frojec ple Type		150.1	0312 Ambient	t Air Datarı	mination of Asbest			IATL Grid Box #:	2077
	Submitta		130 1	ujiz, Ambiem	An Deter	mination of Aspest	os ribies		Grid Archive ID #:	K6K8
	EM ID:			JEOL, JEM-12	230, EM18440	033 EVEX				
Г			ary Filt	er Dia. (mm²):	25	<del></del>	Filter Dia. (mm²):	n/a		
			-	y EFA (mm²):	385		ondary EFA (mm²):	n/a		
				ry Filter Type:	MCE		ondary Filter Type:	n/a	Magnification:	20,000X
	Pr	imary I		ore Size (µm):	0.8		ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
<u> </u>										
					rid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
					pening Area:	0.0130 mm <sup>2</sup>				
			Grid (	Openings Read		21		um Detection Limit:	0.0003	s/cc
<u> </u>				Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
<u> </u>	Primary	/ Total	Ashes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	6	
	1 mmary	, 10141	713003	0.5 - 5.0 μm:	NSE		-	•	-	•
				>5.0μm:	NSE					
				Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	22.0	s/mm²
				Asbestos:	<	0.00029 s/cc		Non-Asbestos:	0.00176	s/cc
									Fraction of collection filter ashed:	0.25
		Place ":	k" in bo	k if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	40
		Place ":	c" in bo	x if overloaded (>	>25%)	Analys	is Data		Volume of dispersion filtered:	
			T		7 1		T	r	* (pcf) = possibl	e cleavage fragment
	Grid	Primary	Total	Structure F	Length	Width	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Ope	ning ID	ir,	<u> </u>	BMC	μm	μm	Cirysothe	Ampinoole	Non-Assestes	or Comments*
K6	D6		<u> </u>	NSD						
<u> </u>	D5			NSD						
⊩	D4			NSD		***************************************				
<b> </b>	D3		<b> </b> -	NSD						
<b> </b>	D2		ļ	NSD						
⊩—	DI		-	NSD		······································	<b> </b>			
<b> </b>	FI		<u> </u>	NSD			<u> </u>			
⊩	F2			NSD	1.6				0'11 O4 E7	
⊩	F3		<del> </del>	F	1.6	0.2			SiAl - Other Fiber	
⊩	EA			F	4.5	0.4			SiAl - Other Fiber	1
<b> </b>	F4 F5		<del> </del>	NSD		· · · · · · · · · · · · · · · · · · ·	<u> </u>			
K8	G6		<del> </del>	NSD NSD			1			
100	G7		<del> </del>	F	2.7	0.2			SiAl - Other Fiber	
<b> </b>	G8		l	NSD	2.1	0.2			SIAI - Office From	
	G9		<b> </b>	F	3	0.3			SiAl - Other Fiber	
$\parallel$	G10			NSD		0.5			3111 (31101 1 1001	
	110		<b>†</b>	NSD						
	19			NSD						
	I8		1	F	0.8	0.1			SiAl - Other Fiber	
	17			F	2.7	0.3			SiAl - Other Fiber	
	I6			NSD						
		0	0				50		6	
						suspect asbestos fibe			Prep Quality:	
				Chrysotile DP restained Y/N). Pris		004, 110, 130, 220, 20	00)		Dissolution Carbon Film	GOOD
	Characteri					attaen. ical Electron Microsco	ope)		Loading	5%
				ENTATION MAI	P				***************************************	
Com	ments:								Analyzed By: Reviewed By:	

TATT	International Asbestos
LALL	Testing Laboratories

Clina N		The I	6- D. C T.	ahniaal C :		Analysis Deter			IATI Comple 4	7045860
Client Name: Client Project		Ine L	& R Group - To	echnical Servic	<u>ces</u>	Analysis Date: 08/08/20			IATL Sample #: Client Sample #:	12
Sample Type: QC Submittal		ISO 10	312, Ambient	Air Detern	nination of As	bestos Fibres			IATL Grid Box #: Grid Archive ID #:	2077 K10L1
†AEM ID:			JEOL, JEM-12	30. EM18440	033 EVE	ΣX				
·····			er Dia. (mm²):	25		ndary Filter Dia. (r	nm²):	n/a		
			y EFA (mm²):	385		Secondary EFA (r	-	n/a		
			ry Filter Type:	MCE		Secondary Filter		n/a	Magnification:	20,000X
Pri			ore Size (µm):	0.8	Secondar	y Filter Pore Size		n/a	Accelerating Voltage:	
			G	rid Opening:	0.115 mm		Volui	ne of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm	2		•		•
		Grid C	penings Read		21		Minimu	ım Detection Limit:	0.0003	s/cc
		Ona C	-	ea Analyzed:	0.273 mm			alytical Sensitivity:	3.66	s/mm^2
				_						
Primary /	Total	Asbest	tos Structures:	NSD	······································	SD	Non-A	Asbestos Structures:	4	-
			0.5 - 5.0 μm:	NSD						
			>5.0μm:	NSD		2		<b>37</b> - 3 - 4 - 7	14.77	- l
			Asbestos:	< :				Non-Asbestos:	14.7	s/mm²
			Asbestos:	< 1	0.00029 s/cc			Non-Asbestos:	0.00117	s/cc
<b></b>	TO 11		10 1 1- N 1	- 1.40					Fraction of collection filter ashed	
<u></u>			k if analysis "on-l						Volume (mls) used for ash dispersal  Volume of dispersion filtered	
L	Place "x	(" in box	s if overloaded (>	25%)	Ana	lysis Data			•	le cleavage fragment
C	70		C44	Length	Width		T I			μgraph/EDS ID
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm	† Chryso	tile	**Amphibole	***Non-Asbestos	or Comments*
		<u> </u>								
K10 H5			NSD NSD							
H6 H7			NSD							
H8			NSD							
H9			NSD							
H10			NSD							
E10			NSD							
E9		m	F	4	1				SiAl - Other Fiber	
E8			NSD							
E7			М	1	0.2				SiMg - Talc	
E6			NSD							
LI D6			F	7.5	1.5				SiMg - Talc	<u> </u>
D7			F	1.5	0.2				SiAl - Other Fiber	
D8			NSD							
D9			NSD							
D10			NSD							
F10		<u> </u>	NSD							
F9		<b> </b>	NSD							-
F8		<b> </b>	NSD							
F7	ļ	<del> </del>	NSD							-
F6		<del>                                     </del>	NSD							+
	0	0							-4	
			logy, SAED, and						Prep Quality:	
			Chrysotile DP re			20, 200)			Dissolution	GOOD
** Define An  *** Characteri			otained Y/N). Pri		attach. tical Electron Mi	icroscope)			Carbon Film Loading	4%
			ENTATION MA			• /			<u> </u>	
Comments:									Analyzed By Reviewed By	

Client Name Client Project		The L	& R Group - T	echnical Serv	ices [		alysis Date: 08/08/20			IATL Sample #: Client Sample #:	
Sample Type	2:	ISO 1	0312, Ambien	t Air Deter	mination o	f Asbesto	s Fibres	<b>!</b>		IATL Grid Box #	2077
QC Submitta										Grid Archive ID #	L3L5
<sup>†</sup> AEM ID:	III		JEOL, JEM-12	230, EM18440	0033	EVEX					
	Prim	ary Filte	er Dia. (mm²):	25	S	econdary	Filter Dia. (mm²	): n/a			
		Primar	y EFA (mm²):	385		Secon	ndary EFA (mm²	):n/a			
		Prima	ry Filter Type:	MCE		Seco	ndary Filter Type	e: n/a		Magnification	20,000X
P	rimary	Filter P	ore Size (µm):	0.8	Secon	dary Filt	er Pore Size (μm	):n/a		Accelerating Voltage	100KeV
			G	irid Opening:	0.115	mm	Vo	lume of Air Sam	npled:	4809	Liters
			Grid o	pening Area:	0.0130	mm²			-		•
		Grid (	Openings Read	/ (Required):	21		Mini	mum Detection I	Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273	mm <sup>2</sup>		Analytical Sensi	-	3.66	s/mm^2
										2.10.0	
Primary	/ Total	Asbes	tos Structures:	NSD	/	NSD	. No	n-Asbestos Struc	tures:	NSD	_
			0.5 - 5.0 μm:	NSI							
			>5.0µm: Asbestos:	NSI				Non-Asb	antan.	< 3.7	s/mm²
			Asbestos:		<del></del>	s/mm <sup>*</sup> s/cc		Non-Asb	-	< 0.00029	s/cc
			713003103.		0.00025			11011-1130		Fraction of collection filter ashed	
<u> </u>	Place "	x" in bo	c if analysis "on-	hold"						Volume (mls) used for ash dispersal	
	╡		x if overloaded (>				·			Volume of dispersion filtered	
L	J				A	nalysi	is Data			* (pcf) = possit	le cleavage fragment
Grid	Pri	Ţ	Structure F	Length	Wic	th	+	**		***	μgraph/EDS ID
Opening ID	Primary	Total	ВМС	μm	μn	1	† Chrysotile	Amphib	ole	Non-Asbestos	or Comments*
L3 F5	İ	<b>†</b>	NSD							A. T.	1
F6		<b>1</b>	NSD			***************************************					
F7		İ	NSD								
F8			NSD								
F9			NSD								
F10			NSD								
D10	<u> </u>	<u> </u>	NSD								
D9	ļ		NSD								
D8	ļ	ļ	NSD					<b>_</b>			
D7	ļ	ļ	NSD								
D6	<b>-</b>	╀	NSD								
L5 H6	<del> </del>	<del> </del>	NSD								
H7 H8	╂	╂	NSD NSD								
H9	<del> </del>	<del> </del>	NSD				<u> </u>				
H10	<del> </del>	+	NSD				<u> </u>				-
F10	<del>                                     </del>	1	NSD			***************************************					
F9	†	<b>†</b>	NSD								
F8	1	1	NSD			***************************************					
F7	1		NSD								
F6			NSD								
						CONTRACT NO					
	0	0								0	1
			ogy, SAED, and							Prep Quality:	
			Chrysotile DP re tained Y/N). Pri			u, 220, 20¢	U)			Dissolution Carbon Film	GOOD FAIR
*** Character				AEM (Analy		Microsco	ppe)			Loading	1%
SEE REVERS	E: FIBI	ER ORII	ENTATION MA	P							
Comments:										Analyzed By	

		<b>-67</b>	lesting Labor	atories					<u> </u>
Client Name:	:	The L	& R Group - T	echnical Servi	ces An	alysis Date:		IATL Sample #:	7045862
Client Projec	t#:					08/08/20		Client Sample #:	14
Sample Type		ISO 1	0312, Ambient	Air Deteri	mination of Asbest	os Fibres		IATL Grid Box #:	
QC Submitta								Grid Archive ID #:	L7L9
<sup>†</sup> AEM ID:	····		JEOL, JEM-12	30, EM18440					
	Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Seco	ndary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X
Pı	rimary l	ilter P	ore Size (µm):	0.8	Secondary Filt	ter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	me of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		·		
		Grid (	Openings Read	/(Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Ar	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
Primary	/ Total	Ashes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
1			0.5 - 5.0 μm:	NSD	)	-	•		-
			>5.0μm:	NSE					
			Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 0.0	s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
	_							Fraction of collection filter ashed	0.25
	Place ":	c" in bo	x if analysis "on-l	nold"				Volume (mls) used for ash dispersal	40
L	Place ":	c" in bo	x if overloaded (>	25%)	Analys	is Data		Volume of dispersion filtered	
	T	r		T4L		1		* (pcf) = possib	le cleavage fragment
Grid	Primary	Total	Structure F	Length μm	Width µm	† Chrysotile	** Amphibole	*** Non-Asbestos	μgraph/EDS ID
Opening ID	Į ą	<u> </u>	ВМС		F	<u> </u>	•		or Comments*
L7 D6	ļ	ļ	NSD						<b></b>
D5	ļ	ļ	NSD						
D4	<del></del>	<u> </u>	NSD						
D3	<del> </del>	<b> </b>	NSD						<u> </u>
D2	╂	<del>                                     </del>	NSD						
D1 F1	<del> </del>	<del> </del>	NSD NSD						
F2	<u> </u>		NSD						
F3			NSD						
F4			NSD						
F5	1		NSD						
L9 D6			NSD					***************************************	
D7			NSD						
D8			NSD						
D9			NSD						
D10	<u> </u>	<u> </u>	NSD		***************************************	<u> </u>			
B10			NSD						
B9	ļ	<u> </u>	NSD						
B8	ļ	ļ	NSD						
B7	<b></b>		NSD						
B6	╂	<del>                                     </del>	NSD						
	0	0						0	
† Must con	firm by l	Morpho	logy, SAED, and	EDXA for each	suspect asbestos fibe	r		Prep Quality:	
					004, 110, 130, 220, 20	00)		Dissolution	GOOD
** Define Ar  *** Character			otained Y/N). Pri		attach. tical Electron Microsco	ope)		Carbon Film Loading	FAIR 1%
			ENTATION MA			-r */		<u> </u>	1/3
Comments:								Analyzed By	

IATL	International Asbestos
TUTI	Testing Laboratories

		he L &	R Group - Te	chnical Service		alysis Date:		IATL Sample #:	70458
ient Project					L	08/08/20		Client Sample #:	20
mple Type: C Submittal:	:	SO 103	312, Ambient	Air Detern	nination of Asbesto	os Fibres		IATL Grid Box #: Grid Archive ID #:	20 M2N
AEM ID: I	II	J	EOL, JEM-12	30, EM18440					
	Primar	y Filter	Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
	P	rimary	EFA (mm²):	385	Secon	ndary EFA (mm²):	n/a		
	I	rimary	Filter Type:	MCE	Seco	ondary Filter Type:	n/a	Magnification:	20,000X
Pri	mary Fi	lter Por	re Size (µm):	0.8	Secondary Filt	er Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			Gı	rid Opening:	0.115 mm	Volu	me of Air Sampled:	4809	Liters
				pening Area:	0.0130 mm <sup>2</sup>				
	(	Grid O	penings Read /	(Required):	21	Minim	um Detection Limit:	0.0003	s/cc
			Total Are	ea Analyzed:	0.273 mm <sup>2</sup>	A	nalytical Sensitivity:	3.66	s/mm^2
Primary /	Total A	Asbesto	s Structures:	NSD	/ NSD	Non-	Asbestos Structures:	1	
111111111,			0.5 - 5.0 μm:	NSE	)	-	<del></del>		-
			>5.0μm;	NSD	· · · · · · · · · · · · · · · · · · ·		Man Aat	2 7	s/mm²
			Asbestos:		3.7 s/mm <sup>2</sup>		Non-Asbestos: _ Non-Asbestos:	3.7 0.00029	s/mm² s/cc
			Asbestos:	<	0.00029 s/cc		Non-Assesios.		-
				1.111				Fraction of collection filter ashed Volume (mls) used for ash dispersal	
			if analysis "on-h				Volume of dispersion filtered		
	Place "x'	' in box	if overloaded (>	-25%)	Analys	is Data		* (pcf) = possib	
C.:.1	- T	JT	Structure F	Length	Width			***	μgraph/EDS
Grid Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	**Amphibole	Non-Asbestos	or Comment
1,0,0,0,0						1	1		
			NSD						
12 C5			NSD NSD						
12 C5 C4									
12 C5			NSD						
12 C5 C4 C3			NSD NSD						
12 C5 C4 C3 C2			NSD NSD NSD						
12 C5 C4 C3 C2 C1			NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1			NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2			NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3			NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 A4 C6 C7			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8 C9			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8 C9 C10			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD						
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 A4 C6 C7 C8 C9 C10 A10			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	Q	12			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 A4 C6 C7 C8 C9 C10 A10 A9			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	9	1.2			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8 C9 C10 A10 A9 A8			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	9	1.2			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 A4 C6 C7 C8 C9 C10 A10 A9 A8 A7			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	9	1.2			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8 C9 C10 A10 A9 A8			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	9	1.2			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 A4 C6 C7 C8 C9 C10 A10 A9 A8 A7			NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	9	1.2			SiAl - Other Fiber	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 M4 C6 C7 C8 C9 C10 A10 A9 A8 A7 A6	0	0 Morphol	NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	EDXA for eac	ch suspect asbestos fib	er		1 Prep Quality:	
12 C5 C4 C3 C2 C1 E1 E2 E3 E4 E5 E6 C7 C8 C9 C10 A10 A9 A8 A7 A6	0	0 Morphol	NSD NSD NSD NSD NSD NSD NSD NSD NSD NSD	EDXA for eaceflections (002	th suspect asbestos fib.,004, 110, 130, 220, 2	err ooo)		1	GOOD



### FINAL RESULTS

### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L& R Group - To	echnical Services		Project:	Mountain Home AFB	
_	1859 S. Topaz Way	Suite 104		Project No.:	20050T - Batch# 617671	
	Meridian ID			•		
Client No.:	LRG308			Turn-Around Time:		5 Days
Client Contacts:			Laborator	y Contacts:		
Contacts:			Contacts:	Frank E. Ehrenfeld III		
Phone:			Phone:	(856) 231-9449		
Fax:			Fax:	(856) 231-9818		
Cell/Pager:			Cell/Pager:	(b) (6)		
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>m</u>	
Chain of Custod	y:					
Samples Taken in F	ield:		Date:		Time:	
Samples Rec'd at La	aboratory: L	. D'Ornellas	Date:	8/6/20	Time:	
Samples Prepped:		B. Reich	Date:	8/6/20	Time:	
Samples Analyzed:		M. Stewart	Date:	8/11/20	Time:	
Preliminary Results	Faxed:		Date:		Time:	
Preliminary Results	E-Mail:		Date:		Time:	
t <del>ha</del>			Ç	mary Data		

# Summary Data Transmission Electron Microscopy

### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID#	IATL Sample ID#	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structuros	<sup>3</sup> Asbestos Types Identified	4,6Results s/mm²	5,6 Results s/cc
I	7045849-rep	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7045859-rep	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
						1	

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2077
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	****	
Overload criteria is >25% 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
structures >5µm in length.		***************************************

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

Clean Project   South   Clean   Clea										
Variation   Var			The L	& R Group - T	echnical Serv	ices			=	7045849-rep
Primary Filter Dia. (mm²): 185   Secondary Filter Dia. (mm²): 185   Secondary Filter Dia. (mm²): 186   Secondary Filter Dia. (mm²): 186   Secondary Filter Type: 186   Magnification: 20,000X	Sample Type	:	ISO 1	0312, Ambien	t Air Deter	mination of Asbe	estos Fibres	-	IATL Grid Box #:	2077
Primary Filter Dis. (mm²): 25   Secondary Filter Dis. (mm²): n/a   Secondary Filter Dis. (mm²): n/a   Magaification: 20,000X									Grid Archive ID #:	M10N1
Primary EFA (mm²): 388   Secondary EFA (mm²): n/a   Magnification: 20,000 X	TAEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
Primary Filter Type:   MCE   Secondary Filter Type:   n/n   n/n   Accelerating Voltage:   100KeV		Prima	ary Filt	er Dia. (mm²):	25	Seconda	ary Filter Dia. (mm²):	n/a		
Primary Filter Pore Size (μm):   0.8   Secondary Filter Pore Size (μm):   n/n   Accelerating Voltage:   100KeV			Prima	y EFA (mm²):	385	Se	econdary EFA (mm²):	n/a		
Grid Openings   O.115   mm   Volume of Air Sampled:   4809   Liters			Prima	ry Filter Type:	MCE	S	econdary Filter Type:	n/a	Magnification:	20,000X
Primary / Total Asbestos Structures: NSD	Pr	imary I	ilter P	ore Size (µm):	0.8	Secondary I	Filter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
Primary / Total Asbestos Structures: NSD					irid Opening:	0.115 mm	Vol	uma of Air Sampled:	4900	Liters
Primary / Total Asbestos Structures:   NSD							VOIL	inic of All Sampled.	4009	· Little's
Primary / Total Asbestos Structures: NSD			Grid (				NC '	<b>5</b>	0.0002	alaa
Primary / Total Asbestos Structures:   NSD			Onav							•
O.5 - 5.0 μm:   NSD   NSD   Non-Asbestos:				10tal Al	ca Analyzeu.	0.273 mm	A	maiyucai Senshivity:	3.00	S/MH1 '2
O.5 - 5.0 μm:   NSD   NSD   Non-Asbestos:	Primary	/ Total	Ashes	tos Structures	NSD	/ NSE	) Non-	Asbestos Structures:	NSD	
Asbestos:   < 3.7   s/mm²   Non-Asbestos:   < 3.7   s/mm²   Non-Asbestos:   < 3.7   s/mm²   Asbestos:   < 0.00029   s/cc   Non-Asbestos:   < 0.00029   s/cc					NSI		and the same of th			•
Place "x" in box if analysis "on-hold"   Fraction following filter about   0.25					NSI	)				
Place "x" in box if analysis "on-hold"   Place "x" in box if analysis "on-hold"   Place "x" in box if analysis "on-hold"   Place "x" in box if overloaded (≥25%)   Analysis Data					<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 3.7	s/mm²
Place "x" in box if analysis "on-hold"				Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
Place "x" in box if analysis "on-hold"	L		***************************************					***************************************	Fraction of collection filter ashed:	0.25
Place "x" in box if overloaded (>25%)		Place ">	c" in bo	x if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	
Common   Fig.   Common   Co		Place ">	c" in bo	x if overloaded (>	>25%)	A a l	unia Dada		Volume of dispersion filtered:	
Opening ID		_		***************************************		Anaiy	sis Data		* (pcf) = possibl	e cleavage fragmen
MIO E1	Grid	Pri	To	Structure F	Length	Width	+	**	***	μgraph/EDS ID
E2	Opening ID	mary	) řá	ВМС	μm	μm	' Chrysotile	Amphibole	Non-Asbestos	or Comments*
E2	M10 E1			NSD						
E3	1									
E4				<del> </del>						
E5			<b></b>							
E6			<b></b>							
E7				<b>}</b>						
E8			<u> </u>	<del> </del>						
E9	<u> </u>									
E10										
D10										
NI				h						
H2										
H4	H2			NSD						
H4										
H5										
H7 NSD H8 NSD H9 NSD 19 NSD  \$\frac{1}{19}\$ NS										
H8 NSD	H6			NSD						
H9 NSD  19 NSD  1 Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)  ** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS  1 AEM (Analytical Electron Microscope)  ** Loading  2%										
H9 NSD 19 NSD 0 0 To The policy of the properties of the policy of the p										
19 NSD   0   0   0     1   1   1   1   1   1	Н9									
† Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)  ** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS    AEM (Analytical Electron Microscope)    AEM (Analytical Electron Microscope)   Double   Company   Compan										
† Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber Record visible prominent Chrysotile DP reflections (002,004, 110, 130, 220, 200)  ** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS  AEM (Analytical Electron Microscope)  Prep Quality: Dissolution GOOD  ** Carbon Film FAIR Loading 2%			Ī							
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)  ** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS		0	0						0	
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)  ** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.  *** Characterize by EDS	† Must conf	irm by N	/orpho	ogy, SAED, and	EDXA for each	suspect asbestos fi	ber			
*** Characterize by EDS AEM (Analytical Electron Microscope) Loading 2%							200)		Dissolution	***************************************
				tained Y/N). Prin			scone)		1	
SEE REVERSE: FIBER ORIENTATION MAP				ENTATION MA		non incerent where	scope)		Loaung	۷70
Comments: Analyzed By: M. Stewart	Commenter								Analyzad De	M Stanior
Reviewed By:	_									

					7/10/10/10			·		
Client Name: Client Projec		The L	& R Group - T	echnical Servi	ces		sis Date: 11/20		IATL Sample #: Client Sample #:	7045859-rep 11
Sample Type		ISO 1	0312, Ambien	t Air Deter	mination of As	bestos F	ibres		IATL Grid Box #:	2077
QC Submitta			IEOL IEM 12	20 EM19440	1022 EME	w			Grid Archive ID #:	N3N5
AEM ID.			JEOL, JEM-12				TD:- /2\.	,		
		•	er Dia. (mm²):	25		-	er Dia. (mm²):	n/a		
			y EFA (mm²):	385			y EFA (mm²):	n/a		
			ry Filter Type:	MCE			ry Filter Type:	n/a	Magnification:	20,000X
Pr	ımary l	ilter P	ore Size (µm):	0.8	Secondary	y Filter P	ore Size (μm):	n/a	Accelerating Voltage:	100KeV
				rid Opening: pening Area:	0.115 mm 0.0130 mm <sup>2</sup>		Volu	ame of Air Sampled:	4809	Liters
		Grid (	Openings Read	-	21		Minim	um Dataation Limit	0.0003	s/cc
		Ona	_	ea Analyzed:	0.273 mm <sup>2</sup>	2		num Detection Limit: nalytical Sensitivity:	3.66	s/mm^2
<u> </u>			1 Otal Al	ca Analyzed.	0.273 11111		A		3.00	5/11111 2
Primary	/ Total	Asbes	tos Structures:	NSD	/ NS	SD	Non-	Asbestos Structures:	1	
			0.5 - 5.0 μm:	NSE	)					•
			>5.0μm:	NSE	)					
			Asbestos:	<	3.7 s/mr	n <sup>²</sup>		Non-Asbestos:	3.7	s/mm²
			Asbestos:	<	0.00029 s/cc			Non-Asbestos:	0.00029	s/cc
		*************							Fraction of collection filter ashed:	0.25
	Place ">	c" in bo	k if analysis "on-l	hold"					Volume (mls) used for ash dispersal:	40
	Place ">	t" in bo	x if overloaded (>	>25%)	Ana	lysis l	Data		Volume of dispersion filtered:	40
[					<del></del>	19313	Data		* (pcf) = possible	e cleavage fragment
Grid	Primary	Total	Structure F	Length	Width		t a	**	***	μgraph/EDS ID
Opening ID	nary	2	ВМС	μm	μm		Chrysotile	Amphibole	*** Non-Asbestos	or Comments*
N3 C1			NSD				<del></del>			
C2			NSD							
C3			M	1.5	0.25				SiAl - Other Fiber	
C4			NSD							
C5			NSD							
C6			NSD							
C7			NSD							
C8			NSD							
C9			NSD							
C10			NSD							
D10			NSD							
N5 D1			NSD							
D2			NSD							
D3			NSD							
D4			NSD							
D5			NSD							
D6			NSD	***************************************						
D7			NSD							
D8		ļ	NSD			_				
D9		ļ	NSD							
D10		<b></b>	NSD			_				
	0	0							4	
+ \			CATTO :	EDA4 C						I
	-	-			suspect asbestos 004, 110, 130, 22				Prep Quality: Dissolution	GOOD
** Define Am	nphibole	(DP ob	tained Y/N). Prin	nt-out EDS and	attach.				Carbon Film	FAIR
*** Characteri	ze by EI	OS		i AEM (Analyt	ical Electron Mic	croscope)			Loading	3%
SEE KEVERSE	: FIBE	K URII	ENTATION MA	r						
Comments:									Analyzed By: Reviewed By:	



Client Name Client Project		The L	& R Group - T	echnical Serv	ices A	nalysis Date: 08/11/20		IATL Sample #: Client Sample #:	LF
Sample Type	2:	ISO 1	0312, Ambien	t Air Deter	mination of Asbes	tos Fibres		IATL Grid Box #:	2077
QC Submitta								Grid Archive ID #:	Mo
†AEM ID:	III		JEOL, JEM-12	230, EM18440	0033 EVEX				
	Prima	ary Filt	er Dia. (mm²):	25	Secondar	y Filter Dia. (mm²):	n/a		
		Primar	y EFA (mm²):	385	Sec	ondary EFA (mm²):	n/a		
		Prima	ry Filter Type:	MCE	Sec	condary Filter Type:	n/a	Magnification:	20,000X
P	rimary I	Filter P	ore Size (µm):	0.8	Secondary Fi	lter Pore Size (μm):	n/a	Accelerating Voltage:	100KeV
			G	irid Opening:	0.115 mm	Vol	ıme of Air Sampled:	0	Liters
					0.0130 mm <sup>2</sup>	VOIL	inic of All Sampleu.	V	·
		Grid (	Ond o Openings Read	pening Area:	10 mm			NIA	-1
		Giia					um Detection Limit:	NA 7.69	s/cc
			Total Al	ea Analyzed:	0.130 mm <sup>2</sup>	A	nalytical Sensitivity:	7.09	s/mm^2
Primary	/ Total	Aches	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
111111111	7 10141	risocs	0.5 - 5.0 μm:	NSI			i isolotos structures.		-
			>5.0μm:	NSI					
			Asbestos:		7.7 s/mm <sup>2</sup>		Non-Asbestos:	< 0.0	s/mm²
			Asbestos:		NA s/cc		Non-Asbestos:	NA	s/cc
L								Fraction of collection filter ashed	•
	Place "	c" in bo	x if analysis "on-l	hold"				Volume (mls) used for ash dispersal:	0.23
<u> </u>	#		x if overloaded (>					Volume of dispersion filtered:	40
Analysis Data									le cleavage fragmen
Grid	-		Structure F	Length	Width	T	Per la company		μgraph/EDS ID
Opening ID	Primary	Total	BMC	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*
									of Comments
M6 F1	ļ		NSD						
F2	<u> </u>		NSD						
F3	ļ	ļ	NSD						
F4	<u> </u>	ļ	NSD						
F5	<u> </u>		NSD						
F6	ļ	ļ	NSD						
F7	ļ	ļ	NSD						
F8	<b> </b>		NSD						
F9	<u> </u>		NSD						
F10	ļ		NSD						
<u> </u>	<u> </u>								
<u> </u>	<u> </u>			····					
<u> </u>	ļ								
	<u> </u>	ļ							
	ļ								
	<u> </u>								
	<u> </u>								
	<u> </u>								
	ļ				***************************************				
	<u> </u>	<u> </u>							
100000000000000000000000000000000000000									
	0	0						0	
					suspect asbestos fibe			Prep Quality:	
			Chrysotile DP ret tained Y/N). Prit		004, 110, 130, 220, 20	00)		Dissolution	GOOD
*** Character					attach. tical Electron Microsc	ope)		Carbon Film Loading	GOOD <1%
			ENTATION MAI						
Comments:								Analyzed By:	M. Stewart
								Reviewed By:	



			TOTAL BUTTON							
Client Nan Client Pro		The L	. & R Group - T	Technical Serv	rices	-	sis Date:		IATL Sample #: Client Sample #:	
Sample Ty	-	ISO I	10312, Ambien	t Air Deter	mination of A	Asbestos I	Fibres	ı	IATL Grid Box #:	2077
QC Submi			JEOL, JEM-1	230 EM1844	0022 EV	ΈX			Grid Archive ID #:	N7
112		arv Filt	ter Dia. (mm²):				ter Dia. (mm²):	n/a		
		-	ry EFA (mm²):				ry EFA (mm²):	***************************************	-	
			ary Filter Type:		•		ary Filter Type:	<del></del>	Magnification:	20,000X
	Primary		ore Size (µm):	0.8	Seconda		Pore Size (µm):		Accelerating Voltage:	
				Grid Opening:	0.115 mn	n	Vol	ume of Air Sampled	: 0	Liters
				opening Area:	0.0130 mn	$n^2$				•
		Grid	Openings Read	/ (Required):	10		Minim	num Detection Limit	: NA	s/cc
			Total A	rea Analyzed:	0.130 mn	$n^2$		analytical Sensitivity		s/mm^2
Prima	ry / Tota	Ashes	tos Structures:	NSD	/ N	NSD	Non-	-Asbestos Structures	: NSD	
	.,, 10.0		0.5 - 5.0 μm:	NSI		<del></del>		r isototos situatures		
			>5.0μm:	NSI	)					
			Asbestos:	<	7.7 s/m			Non-Asbestos	< 0.0	s/mm²
			Asbestos:		NA s/co	C		Non-Asbestos	: NA	s/cc
<b></b>	<b>—</b>								Fraction of collection filter ashed	0.25
<u> </u>			x if analysis "on-						Volume (mls) used for ash dispersal:	10
L	Place	x 111 00	x if overloaded (	>23%)	Ana	llysis l	Data		Volume of dispersion filtered:  * (ncf) = nossib	40 le cleavage fragment
Grid	7	T	Structure F	Length	Width	T		I		μgraph/EDS ID
Opening I	D Primary	Total	BMC	μm	μm		<sup>†</sup> Chrysotile	**Amphibole	***Non-Asbestos	or Comments*
N7 EI		1	NSD							<u> </u>
E2			NSD							
E3			NSD							
E4		ļ	NSD							
E5	_	ļ	NSD							
E6			NSD							
E7 E8	-	<del> </del>	NSD NSD							
E9	+-	<b>†</b>	NSD							
E10		1	NSD							
		1								
		<u> </u>								
		<del> </del>								
	_	-		<del>~ </del>			·····			
					:					
		T								
	0	0							0	
† Must co	onfirm by l	Morphol	ogy, SAED, and	EDXA for each	suspect asbesto	s fiber			Prep Quality:	
** Define	visible pro Amphibole	minent of	Chrysotile DP relatained Y/N). Prin	), ilections (002) nt-out EDS and	004, 110, 130, 22 attach	20, 200)			Dissolution Carbon Film	GOOD
*** Characte	erize by El	SC		1 AEM (Analyt	ical Electron Mi	croscope)			Loading	<1%
		K ORIE	ENTATION MAI	P						
Comments:									Analyzed By: Reviewed By:	M. Stewart

SEE REVERSE: FIBER ORIENTATION MAP

Comments:

							***************************************			
	t Name:		The L	& R Group - T	echnical Serv	l l	alysis Date:		IATL Sample #:	
	t Projec					<u> </u>	08/07/20		Client Sample #:	
	ole Type Submitta		ISO 1	0312, Ambien	t Air Deter	mination of Asbesto	os Fibres		IATL Grid Box #: Grid Archive ID #:	
†AI	EM ID:	Ш		JEOL, JEM-12	230, EM18440	0033 EVEX				
		Prima	ary Filt	er Dia. (mm²):	25	Secondary	Filter Dia. (mm²):	n/a		
			-	ry EFA (mm²):	385	•	ndary EFA (mm²):	n/a		
				ry Filter Type:	MCE	•	ondary Filter Type:	n/a	Magnification	20,000X
	De	imarı I		ore Size (µm):	0.8	•	er Pore Size (µm):		_	
	F1	miaiy i	rinter r	ore size (μπ).	0.6	Secondary Fine	er Pore Size (µm).	n/a	Accelerating Voltage	100KeV
				C	Grid Opening:	0.115 mm	Volu	ime of Air Sampled:	4809	Liters
				Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		-
			Grid (	Openings Read	/ (Required):	21	Minim	um Detection Limit:	0.0003	s/cc
				Total Ar	rea Analyzed:	0.273 mm <sup>2</sup>	Α	nalytical Sensitivity:	3.66	s/mm^2
<u> </u>										
	Primary .	/ Total	Asbes	tos Structures:	NSD	/ NSD	Non-	Asbestos Structures:	NSD	
				0.5 - 5.0 μm:	NSI	)	•	•		<del>-</del>
				>5.0μm:	NSI	)				
				Asbestos:	<	3.7 s/mm <sup>2</sup>		Non-Asbestos:	< 0.0	s/mm²
				Asbestos:		0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
L									Fraction of collection filter ashed	0.25
		Place ":	x" in bo	x if analysis "on-	hold"				Volume (mls) used for ash dispersal	
		ŀ		x if overloaded (					Volume of dispersion filtered	10
	<b>1</b>			(	,	Analysi	s Data			le cleavage fragment
	Grid	79		Structure F	Length	Width	_			μgraph/EDS ID
	ning ID	Primary	Total	BMC	μm	μm	† Chrysotile	**Amphibole	*** Non-Asbestos	or Comments*
<u> </u>			<del> </del>		, en				7: 27	or Comments
G9	C6		ļ	<del>                                     </del>	2.0	o.G			SiAI	
ļ	C7		ļ	;	2.7	ા.હ			5,A)	
水	C8								SIBIM-GFE	
	.С9		ļ	NOD						
	C10		<u> </u>	N 250						
	E10			N 400						
	E9			NUD						
<u> </u>	E8.			1	1,0	0.3			Cz	
	. E7			CEN						
,	E6			MSD						
	E5			į į	1.0	0.2			Ca	
H2	D5			Vob						
	D4			i	1.5	0.06			SIA)	
				NSD		***************************************		T		
11	D3		1	1 10				1		1
	D3 D2			NOD						
8					4.0	0,5				
8	D2		-		4.0	0,5			3;	
8	D2 D1 F1				4.0	0,5			Si	
8	D2 D1 F1 F2				4.0	0,5			Si	
8	D2 D1 F1 F2 F3									
•	D2 D1 F1 F2 F3 F4			1 1 N3D	2.0	0.15			Si Gr	
8	D2 D1 F1 F2 F3								Gr	
8	D2 D1 F1 F2 F3 F4	0	0	1 1 N3D	2.0	0.15			Gr E	
	D2 D1 F1 F2 F3 F4 F5	0	0 Vorphol	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.0	D.15			Gr 0	
+ 1	D2 D1 F1 F2 F3 F4 F5	irm by N	Morphol	NSD I I I I I	2.0	0.15			Gr E	GOOD
† 1	D2 D1 F1 F2 F3 F4 F5	irm by N ible pro phibole	Morphol minent (DP ob	NSD I I I I I	EDXA for each flections (002, , int-out EDS and	0. 15 a suspect asbestos fiber 204, 110, 130, 220, 200	))		0 Prep Quality:	GOOD

Analyzed By: Reviewed By: M. Stewart C. USNA 8/13/20

8/13/20

IATL	International Asbestos
	Testing Laboratories

Client Name: Client Project		The L	& R Group - To	echnical Servi	<u>ces</u>	Analysis Date: 08/08/20		IATL Sample #: Client Sample #:	7045860 12
Sample Type:		ISO 10	312, Ambient	Air Deter	mination of Asl	bestos Fibres		IATL Grid Box #:	2077
QC Submittal								Grid Archive ID #:	K10L1
†AEM ID: I			JEOL, JEM-12						
		-	r Dia. (mm²):	25		dary Filter Dia. (mm²):	n/a		
		-	/ EFA (mm²): _	385		Secondary EFA (mm²):	n/a		
			y Filter Type:	MCE		Secondary Filter Type:	n/a	Magnification:	
Pri	mary F	ilter Po	ore Size (μm): _	0.8	Secondary	Filter Pore Size (µm):	n/a	Accelerating Voltage:	100KeV
			G	rid Opening:	0.115 mm	Volu	ume of Air Sampled:	4809	Liters
			Grid o	pening Area:	0.0130 mm <sup>2</sup>		•		•
		Grid C	penings Read	(Required):	21		um Detection Limit:	0.0003	s/cc
				ea Analyzed:	0.273 mm <sup>2</sup>		nalytical Sensitivity:	3.66	s/mm^2
Primary /	Total	Asbest	os Structures:	NSD	/ NS	SD Non-	Asbestos Structures:	NSD	
			0.5 - 5.0 μm: ]	NSE					
			>5.0µm:	NSL		_			
			Asbestos:	<del></del>	3.7 s/mn	ก๋	Non-Asbestos:		s/mm²
			Asbestos:	<	0.00029 s/cc		Non-Asbestos:	< 0.00029	s/cc
<del></del> 1.								Fraction of collection filter ashed	0.20
<del></del>			if analysis "on-h					Volume (mls) used for ash dispersal:  Volume of dispersion filtered:	10
LJ	Place "x	" in box	if overloaded (>	·25%)	Anal	ysis Data			40 le cleavage fragment
C T	70	ا ر	C+	Length	Width	T			μgraph/EDS ID
Grid Opening ID	Primary	Total	Structure F B M C	μm	μm	† Chrysotile	**Amphibole	***Non-Asbestos	or Comments*
				13 5				C. n ! //	l Comments
K10 H5			11500	3,6	1,5			SIA  K	
H6			NSD NSD						
H7 H8			NSD		***************************************				
H9									
H10			472D GS14						
~ E10			14020						
E9			N30						
E8			1	1.4	0.25			Cr	
E7			NSD						
E6			NSO						
LI D6			7	9,0	2.5			SiAI	
D7			i	1. 4	ひひ			7;	
D8			NSD						
D9			NiD						
D10			NiO						
F10			/	4.5	9.7			Si	
F9			Non						
F8			מנע						
F7				2.4	٧.٥			JIMM, QE	
F6			NUD					J	
	0	0						0	
					suspect asbestos			Prep Quality:	COOD
			Chrysotile DP ret tained Y/N), Prir		004, 110, 130, 220 attach.	u, 200)		Dissolution Carbon Film	GOOD
		·							
*** Characteriz SEE REVERSE	e by ED				ical Electron Mic	roscope)		Loading	4%

# Appendix QA Data

QAPP Worksheet #28 – QC Samples Table (Bulk)

Matrix Analytical Group Analytical Method/SOP Referencel		Bulk PLM						
		QC Sample	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action2	Measurement Performance Criteria	
Method Blank	Daily use of non- ACM material	<0.25%	Determine the source of the contamination.	Analyst	Same as Method/SOP QC Acceptance Limits			
intra- analyst reanalysis	2% of samples analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits			
Inter- analyst Quality assurance	7% of sample analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, if need a tertiary analyst follows. Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits			
Inter- laboratory Quality assurance	Quarteriy	2-3x standard deviation	Inter Laboratory round robin and/or Proficiency Test participation.	An alyst QA Manager	Same as Method/SOP QC Acceptance Limits			
Reference sample	Daily for alignment, qual, and quant.	Must meet established acceptance criteria	Reanalyze is misclassification.	An alyst	Same as Method/SOP QC Acceptance Limits			

### QAPP Worksheet #28 – QC Samples Table (Air)

Matrix		Air									
Analytical Gro	ир	Asbestos	***************************************		<del></del>						
Analytical Met	hod/SOP Referencel	ISO 10312:2019/TE	M .002		***************************************						
QC Sample	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action2	Project- Specific Measurement Performance Criteria						
Method Blank	5% of submitted samples	1 structure	Determine the source of the contamination. Clean equipment; prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits						
Field blank	10% of submitted samples	1 structure	Determine the source of the contamination. Clean equipment: prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits						
Intra-analyst reanalysis	2% of samples analyzed per day	<5structures ± 1s; 5-20structures ± 2s; >20structures ± 3s or 3StDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits						
Inter-analyst Quality assurance	7% of sample analyzed per day	<5structures ± 15; 5-20structures ± 25; >20structures ± 35 or 35tDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits						
Inter- laboratory Quality assurance	Quarterly	2x standard deviation	Inter Laboratory Verification – Round Robin or Proficiency Test samples	Analyst QA Manager	Same as Method/SOP QC acceptance limits						
Reference sample	EDS Calibrations See Table WS24	Must meet established acceptance criteria	Reanalyze after service call and within acceptable limits	Analyst	Same as Method/SOP QC acceptance límits						

OAPP Worksheet #24 - Analytical Instrument Calibration

Instrument	Calibration Item	Calibration Range	Frequency	Acceptance Criteria <sup>2</sup>	Corrective Action <sup>3</sup>	Title/position responsible for CA	Applicable SOP for calibration
TEMI	Magnification Scale	0-40,000x	Annually	10%	Service Call	Quality Manager	TEM.002
TEMI	Working Magnification	20,000x	Quarterly	10%	Service Call	Quality Manager	TEM.002
TEMI	Camera Constant (SAED)	mm-nm	Monthly	10%	Service Call	Quality Manager	TEM.002
TEM I	Beam Dose (SAED)	Seconds	Monthly	30-60	Service Call	Quality Manager	TEM.002
TEMI	Beam Spot Size	250nm	Monthly	15%	Service Call	Quality Manager	TEM.002
EDS I	K Factors	1Kev - 10Kev	Annually	Sliding energy scale	Service Call	Quality Manager	TEM.002
EDS I	Energy Calibration Check	1KeV - 10KeV	Weekly	Al Ka, Cu Ka	Service Call	Quality Manager	TEM.002
EDS I	Resolution	Mn Ka	Monthly	75KeV FWHM	Service Call	Quality Manager	TEM.002
EDS I	Sensitivity	Na Ka	Monthly	3x SD	Service Call	Quality Manager	TEM.002
PLM	Refractive Index Oil	1.550-1.700	Receipt of new batch & quarterly	0.004	Reject Product	Quality Manager	PLM .007
PLM	Alignment	stage objectives optic axis polarizers	Daily check	RI colors and Ext Angle of SRM	Service Call	Analyst	PLM .007
Analytical Balance	Mass	NIST Class S-1 weights Troemner Certification	Daily AutoCal prior to use	0.002 g	Monthly checks with weights. Sartorius Certification.	Analyst/Quality Manager	PLM .007
Muffle Furnace	Temperature	485oC	Monthly	5% range	Service Call	Quality Manager	PLM .007
NIST Traceable Digital Thermometers	Temperature	-1 - 101oC	Daily check	+/- 1oC	Replacement	Quality Manager	PLM .007
Grid Opening Calibrations	Area	0.112- 0.118mm	Receipt of batch	0.0130- 0.0134mm2	Revise calculations	Analyst	TEM
Low Temperature Asher (Plasma)	Gravimetry Loss % over time setting	5-15%	Monthly	5-15%	Adjust / recalibrate	Analyst	TEM

QC Bag Date: 6/2/2020
QC Review: 124.0.8.25.20

IATL: Daily QAQC Worksheet

Analyst: 8/25/2029

Notes: 1) (PC) Point Count via ELAP 198.1, record asbestos points (AP), non-empty points (NE), and slide mounts. See chart and PC Data Calc.,

2) Provide at least one optical property for non-asbestos fibers, 3) Use RI Values and Temp (SC Su'96), 4) Report clear observations on layered materials, including SR/JC/Comp, FT/M, absent layers, insufficient layers, and other valuable descriptions

QC Notes: QC Reanalyses resulting in R-values > 1.0 must be resolved by the Lab Director. Tertiary Analysis is assigned by the Lab Director, QAC, or designee.

	Client #	Est	Quantity (VAE%)	1Point	Non-Asbestos	NFM			Appearance				racteri			DS Data	
Code	IATL#	Str %	Asbestos Type	Count Data	Fibers & %	%	Layers Homog	Color	Material Type	R.I M	dorph	Pleo I	BiRef +	Elon Ex <sup>0</sup>			QC
SRM CRM	M1 2018 #4	Ø	PC ND	75678		100	Y	1	FT	1,550							AOR CA OK
Intra 1	<u> 7050011</u>	Ø	rc ND	Q 5678		(00)	Y	B1,	GA	1,550	,		- V - C- C- C- C- C- C- C- C- C- C- C- C- C				AOR CA OK
Intra 2	7050010	Ø	PC ND	<u>-/</u> Øs678	C:40	60	1	DK G	GA	1.550			A SAME OF THE SAME	Ц		- 1	AOR — CA OK
Inter 1	7080394	Ø	PC ND	Q5678	CiZ	98	Y	Bl	T	1,550	-			L.			AOR —EA OK
Inter 2	7020398	Ø	PC ND	Q5678		[00]	Y	T	Fo	1,550							AOR CA OK
Inter 3	7020408	Ø	PC ND	<del>-/-</del> (4)5678		100	Y	Bl	Covering Material	1,550	-						AOR CA OK
Inter 4		Ø	PC ND	J 5678	-	100	V	T	gealant	1,550							AOR CA OK
Inter 5	7020401	Ø	PC NO	<del>-/-</del>		-100	Y	T	covering material	1.550	.,						AOR CA OK
Inter 6	7020404	20	Chrys: Lo	<u> </u>		80	Y	6	CP.	1.550	W	N	4	+ 0	1,540	11.556	AOR CA OK
Inter 7			PC	45678													AOR CA OK

Location:

Model:

BX-41TF

PLM IV, S	Station 9		<del></del>	······································	Ca	libration	Procedu	ree			T				al Number	0G07736	
				A	llignment <sup>1</sup>		1	T ==		<del></del>	<u> </u>	<b>-</b>	Contam	ination C	ontrol		7
Date	Analyst	Kohler Hum.	Stage	Diaph. / Condusr. <sup>2</sup>	Objective	Polarizer <sup>3</sup>	HEPA hood (cfm)	RI Oil Std	RI Oil CSDS	Temp.	Tools	ELAP Fibergls Std 4	- RI Oil	Surfaces	Slides	In-House Air Monitoring	Maint. (see back)
2/16/2020	CR						107	1.550	1.550 ±	22,4	/	/	/				Uack,
8/18/202	OR						105	1.550	1.55/ 1 1.557 II	221	/				/		
8/19/2020	CR.		/		' /		105	1.550	4661	22.6	/		/				
19/20/2020	CR	-		_/		,//	105	1.550	55.55	2							
0/23/201	CR		4	/		/	105	1.550	3' 61/2	230	$\mathcal{I}$						
8/24/2020	CR	<u> </u>	4				102	1.550	1.551	711 4				1			
8/25/202	CR	=	4	/	/	/	107	1.550	I EUG	23.6	7		-/	-			
							•		1		$\neg$						
									计								-
									1								
									<u> </u>								
									<u> </u>								$-\parallel$
									11								
3 41:-				ection 3.4 of I					1								$-\parallel$

1 41		_
i Alignment procedures de	etailed in Section 3.4 of PLM Se	ΩP

i i iocigiass	standard is to be analyzed every 20 samples. The detection is	and any ber cheeked using anthophylite standard
QA/QC Review:	20 samples. The detection of aspestos at a c	concentration exceeding 0.1% will require an investigation to detect and remove the source of the asbestos contamination
AWAC VENIEN:		on the source of the selection to detect and remove the source of the selection
		to the aspesios contamination.

PLM.Calibrations.001

Revision Date: 7/22/2019

<sup>2</sup> Field Iris Diaphramn & Substage Condenser System.

<sup>3</sup> Polarizer and Analyzer oriented at 90° to one another. Coincidence of cross hairs with the privileged directions of polarizer and anlyzer checked using anthophylite standard.



PLM Microscope Log

Model:

BH2

Serial Number:

BHS 227556

Location:

PLM III,	Station 7				Ca	libration	Procedur	es				Conta	mination	Control			1
Date	Analyst	Kohler IIIum.	Stage	Diagh .	lignment <sup>1</sup> Objective	Polarizer <sup>3</sup>	HEPA hood (cfm)	R1 Oil Std	RI Oil CSDS	Temp.	Tools	ELAP Fibergls Std 4	RI Oil	Surfaces	Slides	In-House Air Monitoring	Maint. (see back)
5-20-20	TL	/	/	/	graph spars(C.A.PA	/	136	1.550	1.547 I	21.4	1	1	/	3	1		
(-)-20	Lsp	V	v	L		v-	115	1.50	7. 5 句 - 1 2 くどり - 11		V	V.	V	v	<i>V</i> -		
6-8-20	251	V	1	V		V	110	1.550	11551 11	27. (3	2	~	~	· -	ب		
6-9-20	15/	V	4	U :		~	135	1.605	1.531	23.1	2-	_	<i>C</i> :	-	نے	,	
6-10-20	756	V	V	U		V	132	1.680	1.699 I	24.0	V	خست	~				
6-13-20	1.48	V	~	V		V	136	1.680	1.688 11	33.6	/	<u></u>	V	L	~		
6-1420	150	i/	/	L		V	133	1.680	1.677 1	23_1	/	<u>_</u>	_	<u></u>	U		
6-15-20	25P	V	V			V	130	1.860	1.549 I	23.8	~	<u></u>	-, -	· ~		T T. W	
6-16-20	186	<b>V</b>	V	<i>y</i>		/	135	1.550	1.548 I	23.1	V	v	r	V	V		
6.17-20	150	V	h	V		V	/33	1.55	1.558 I	22.8	V		L				
6-21-20	à SC	V	, ,-	V		V	138	1.550	1.648 I	วว.ร	٢	<i>i</i> ~	~	~	سن		
(-22-20	LSP	V	<i>y</i>	V		V	130	1.680		23.4	v	~		~		***	
(-2300	160	V	/	V	<u> </u>	V	133	1550	11	22.1	$\nu$	v	i	4	4		
6-27-20	LSP	V	11	V		V	129	1.550	7. 9 . 7 . 111	32.8	V	-	4	·~			
6-78.89	150	V	U	V		V	130	1.55#	1555 II	8.60	/	~	-	0			

<sup>1</sup> Alignment procedures detailed in Section 3.4 of PLM SOP.

QA/QC Review:
PLM.Calibrations.001

							and the state of t	
4 Fiberglas	s standard is to be and	lyzed every 20 s	amples. The detection	on of asbestos at a concentration	exceeding	0.1% will require an i	investigation to detect and remove the source of the asbestos contami	ination.
eview:				1. THE ROOM FICH			•	
ions.001	(x) Now	BOTTERY	(6.8.De)				Revis	sion Dat

<sup>2</sup> Field Iris Diaphramn & Substage Condenser System.

<sup>3</sup> Polarizer and Analyzer oriented at 90° to one another. Coincidence of cross hairs with the privileged directions of polarizer and anlyzer checked using anthophylite standard.



	ation : , Station 11													Ser	Model		
	T T		T -			alibration	Procedu	res					Contam	ination C		6F10563	7
Date	Analyst	Kohler IIIum.	Stage	Diami	llignment <sup>1</sup> Objective	Polarizer <sup>3</sup>	HEPA hood (cfm)	RI Oil Std	RI Oil CSDS	Temp.	Tools		RI Oil	Surfaces	Slides	In-House Air	Maint.
128/20	SL	untille	~	6	L-	-	125	1.550		03/	i gaman	Std <sup>4</sup>			<u> </u> 	Monitoring	back)
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(/3/20	SL	,	V	6		V	133	USSO	1.550 I 1.556 II 1.650 I			Laraman .		Šujene da sa	Control of Control of		
6/4/20	SL	* Secretary	<i>i</i>				135		1.560 I	13.4	<u> </u>	V	レ		lamore		
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11.10.	all van		**		<u>*</u>		124	1.5%	7 222 H	23.(	he -	60-	Ç. T		E CONTRACTOR OF THE		
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1/2/26				Age of the second			9 8 s		<del></del>								.

- 1 Alignment procedures detailed in Section 3.4 of PLM SOP.
- 2 Field Iris Diaphramn & Substage Condenser System.
- 3 Polarizer and Analyzer oriented at 90° to one another. Coincidence of cross hairs with the privileged directions of polarizer and anlyzer checked using anthophylite standard.
- 4 Fiberglass standard is to be analyzed every 20 samples. The detection of asbestos at a concentration exceeding 0.1% will require an investigation to detect and remove the source of the asbestos contamination.

.Calibrations.001

Revision Date: 7/22/2019

## Refractive Index Oil Calibration Check Utilizing Bloss, Shu-Chun-Su, and 589 nm Filter

R. I. Oil [.550

Lot	Date	Tomar	Bloss		Shu-Chun-Su		589 Filter		
No.	Date	Temp	Colors Observed	R. I.	DS Colors	R. I.	Contrast	R. I.	Comments
5718	10-25-18	22.3	yellow-orange-rgram green-beine-roil	1.330 ± 0.404	620	1.549	Very fant-> grain	(026.)	1.550 ± 0.004
1218	12-19-18	21.6	Gellew-orang > gran Sun-blue - o:i	1.220	(o 7U	1.549	frint-socory	1.550	(.550 ± 0.004)
0119	3-1-19	22.4	gellew-orange - grant-	1.550	620	1.549	Very - agrain		1.550 ± 0.004
0119	5-3-19	21.8	green-blue - of 1  yellow-overy 3 grave  green-blue - or of 1  yellow-overy - grave  green-blue - roll  yellow-overy - grave  green-blue - roll  yellow-overy - grave  green-blue - roll  yellow-overy - grave  yellow-overy - grave  yellow-overy - 7 grave  yellow-overy - 7 grave	1,220	620	1.549	Very togram	1.550	1.550 £ 0.004
0319	6-11-19	20.6	green-glue -70il	1.570 ±0.69	620	1.549	Ufiy - 7 grown	(c )	1-20 FORWY
0619	P-77-19	22, 3	yellow-co	F0.04	670	1.540	Very - sgrain	1.220	1.500 £ 0.004
9119	12-2-19	21-9	yelloworme -> grain	10.004	620	1.549	Very - soin	[.570	1.500 to.004
0919		23.9	yelloworang - graun yellow-creme - 7 graun yellow-creme - 7 graun oneun-blue - oil. yellow-orang - 7 graun byellow-orang - 7 graun byellow-orang - 7 graun byellow-orang - 2 graun	F0.007	620	1.219	work fulfill	(-220)	1.500 ± 0.004
	2-24-20	24.8	Guen-love = cil.	1.750	6 20		yed sgrain		1.220 = 0.004
0120	3-12-20	22.8	gelow crang -> grain	1.550 to.054	620		faint 79 rou		1.550 = 0,004
	6-8-20		yellow-orange -7 grown	1.550 ±0.004	670		Paint-19min		
0570	7-7-70	22.9	yellow-orange-79 rain green-blue 7011	1.550	620	1.549	faint > grain	j.7570	1.530 10.004
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			ta (S)	35%					
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2019

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## Refractive Index Oil Calibration Check Utilizing Bloss, Shu-Chun-Su, and 589 nm Filter

R. I. Oil 1. 605

L	Lot Date Temp		Bloss		Shu-Chun-Su		589 Filter			
N	o.	o. Date To		Colors Observed	R. I.	DS Colors	R. I.	Contrast	R. I.	Comments
021	5	10-25-18	23.3	Redorange - 7 grown White-blue-roil	1-605	700	1-605	1-60 V fant-2970-	1.601	1.605 = 0.005
02	18	1-23-18	23.3	Red-crange -7 grain  Red-crange -7 grain  Rud-orange -7 grain  White -> Ishe -7 oil  Rud-orange -7 grain  White -> Ishe -7 oil  Red-orange -7 grain  White -> Ishe -7 oil  Red-orange -7 grain  White -> Sure -7 oil	1.605	700	1-665	1.00 very first agrain	1-605	
07	18	5-6-19	21.8	Red-orange -> grain White -> blue -> 0:1.	1.605	700	1-605	1.61 V faint-raram	1.605	1.605 ± 0.005
021	18	8-21-9	21.1	Red-orange -79 roun	1,607	700	1.625	1.60 v. foint - oil	1.605	
60	418	2-12-30	23.7	Red-orange -> gram White-blue -> 011	1.605	700	1-605	1.61 v. faint-7gran	1.605	1.605 = 0.005
021	8	5-21-20	21.8	red-orange 79 row white-blue 70 il : red-orang - 9 row white-blue - 0:1 : ted-orang - 79 row white-blue - 70 il	1.605	7 W	1-605	1.60 V. Fairt-9001	1.605	1.605 £ 0.005
021	8	7-30-70	22.3	white-blue to:1.	1.60'S \$0.00 T	7:00	1-605	1.60 1. Failed +01 1.61 V. Farmed -7 Com 1.60 V. Parmed + 701 1.61 V. Farmed +7011 1.60 V. Farmed +7011	1.608	1.605 £ 0.007
20200	0B-	7-30-20	22.3	Hed orang 79 round	1605 ±0.005	7 00	1.605	1.61 V. fort 7016	٣(.605	1.608 20-008
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## Refractive Index Oil Calibration Check Utilizing Bloss, Shu-Chun-Su, and 589 nm Filter

R. I. Oil L. 680

Lot	Date	Temp	Bloss		Shu-Chun-Su		589 Filter	•	
No.	Date		Colors Observed	R. I.	DS Colors	R. I.	Contrast	R. I.	Comments
0419	4-12-19	21.2	Red stange - grain from the -> 0:1	1-681	(e lo 0	1.683	Very-famt	1.681	1.680 ±0.004
०५१५	5-28-19	22.8	Red prange - 3 grow	1.681	(60		Very -> oil	1.681	1.680 = 0.004
0819	3-21-19	22. l	fed-cross - og rain from him - oil ked-orenge - og rain frem-blue - oil.	1.681	660	1-683	very -70:1	1.681	1.680 ± 0.004
0619	(1-19-(9	22,4	Red-orcing -7 grown	1.681	660	1-683	Cant-roll	1-681	1680 =0.004
1019	2-12-20	22.7	(led-orange 79 mm)	1.681	660	1.683	very-faint	1.681	1.680 to.004
1019	5-21-20	31.8	Red trans -> grains	1.681	660	1.683	rent-7011	1.681	1.680 ± 0,004
			·						
				_					

OC Bog Doto:   05 / 2'	70
QC Bag Date: 6-16.  QC Review: AMAG	

IATL: Daily QAQC Worksheet

Analyst: 250

Notes: 1) (PC) Point Count via ELAP 198.1, record asbestos points (AP), non-empty points (NE), and slide mounts. See chart and PC Data Calc.,

2) Provide at least one optical property for non-asbestos fibers, 3) Use RI Values and Temp (SC Su'96), 4) Report clear observations on layered materials, including SR/JC/Comp, FT/M, absent layers, insufficient layers, and other valuable descriptions

QC Notes: QC Reanalyses resulting in R-values > 1.0 must be resolved by the Lab Director. Tertiary Analysis is assigned by the Lab Director, QAC, or designee.

	Client #	Est	Quantity (VAE%)	<sup>1</sup> Point	Non-Asbestos	NFM	Gross	Sample A	Appearance	2 (	Optica	l Cha	racte	ristics		<sup>3</sup> CSD	S Data	
Code	IATL#	Str %	Asbestos Type	Count Data	Fibers & %	%	Layers Homog	Color	Material Type	R.I N Oil	1orph	Pleo I	BiRef	<sup>+</sup> Elon	Ex <sup>0</sup>	L		QC
SRM CRM	m(2017-1	10	PC CHy 10	/ Ø5678	HINEO	10	1	BRU	Ī	10	H	1	۷	4	4	1,60	m	AOR CA OK
Intra 1	7020802		PC .	/ Ø5678		(00)	(	0	Form	1.00								AOR CA OK
Intra JQ	7020804		ED CHAY 8,2	५/५१ À 5 6 7 8		91.8		G	Î	1.660	K	~	L	4	/(	660	1.05	AOR CA OK
Inter 1	701989		PC UN	/ (4)5678	Cox 12	08	/	Ba	DW	12					U			AOR CA OK
Inter 2			PC MA	/ C45678		100	\	W	JC.	110								AOR CA OK
Inter 3			PC M	45678	CS 100		(	$\omega$	TMPS	1. le					V			AOR CA OK
Inter 4	B1 701 9975		PC .	/ (4)5678	Cur 25	75		BC	SA	1(10					U			AOR CA OK
Inter 5	13 3 7018955		PC M	/ (45678	Cor 30	20	t	RC	54	alle					0			AOR CA OK
Inter 6	/ 1 07 619 854		PC M	/ - <i>9</i> 95 6 7 8		100	(	BC	M	1,//								AOR CA OK
Inter 7	7019896		PC N	/ A5678	Cu 1 12	88		BN	Dw	allo					V			AOR CA OK

C Bag Date:	6-16-	20
C Review:	Anna	(0:10:24)

IATL: Daily QAQC Worksheet

Analyst: USP Date: 6-16-3-0

Notes: 1) (PC) Point Count via ELAP 198.1, record asbestos points (AP), non-empty points (NE), and slide mounts. See chart and PC Data Calc.,

2) Provide at least one optical property for non-asbestos fibers, 3) Use RI Values and Temp (SC Su'96), 4) Report clear observations on layered materials, including SR/JC/Comp, FT/M, absent layers, insufficient layers, and other valuable descriptions

QC Notes: QC Reanalyses resulting in R-values > 1.0 must be resolved by the Lab Director. Tertiary Analysis is assigned by the Lab Director, QAC, or designee.

~~.		1	iting in K-values > 1.01		I Lab D	rector.			is assigned by Appearance			al Cha					20.0	
Code	Client#  IATL#	Est Str %	Quantity (VAE%) Asbestos Type	Point Count Data	Non-Asbestos Fibers & %	NFM %	Layers Homog	•	Material Type	1		Pleo				١.	OS Data	QC
BRM DRM	7015896		PC NO	/ 1/5678		100	(	W	JC	1.10		-						AOR CA OK
ntra I			PC DO	/ /s678	Coc 100	r	(	W	Topo	1100					V			AOR CA OK
ntra 2				45678			/			/,								AOR CA OK
nter 1	7020426		PC M	(4)5 6 7 8	·	128		BU	NF	1.00								AOR CA OK
nter 2	7020423	10	CHry / )	/ (4)5678		8C	(	G	Tops	M	K	~	L	4	1	(iCo	US	AOR CA OK
nter 3	7020413		PC (W	1 Q5678		100	(	Y	_	ph								AOR CA OK
iter 4	7020 +31	) be	POCROC Sol	4/>8 @5678		249	)	G.	00	1660	S K	7	L	<del>-</del>			1.685	AOR CA OK
iter 5	7020440		PC /	/ 45678	FG C1	180		W	Da	1012					Z			AOR CA OK
ici.			PC	/ 45,678			(											AOR CA OK
ter 7			PC	45678	·		(-			•								AOR CA OK



#### 2ND HALF, 2019 ROUND ROBIN RESULTS - PLM

		RRB19 2-1 CHRY	RRB19 2-2 AMOSITE	RRB19 2-3 CROC/	RRB19 2-4 ND
IATL		CIMCI	TIMOSTIE	CHRY	110
	LSP	3.6	75.0	6.1 20.0	ND
	ZS	15.0	15.0	4.0 8.0	ND
	ВН	10.0	60.0	10.0 10.0	ND
	SL	10.0	10.0	2.7 10.0	ND
	MS	4.8	20.0	10.0 10.0	ND
	RC	6.2	15.0	5.0 15.0	ND
AALI	ES	5.8	20.0	7.8 4.3 AM	ND
ME	DAR	5.0	20.0	4.0 8.0	ND
DCMSL					
	RS	9.0	60.0	4.0 6.0	ND
	JS	9.0	65.0	4.0 6.0	ND
	JB	5.0	60.0	3.0 5.0	ND
	AS	12.0	56.0	4.0 8.0	ND
ND - NONE DET	ECTED				
MEAN STD DEV		7.58 3.20	38.18 24.05	7.68 4.39	0.00 0.00
C.V.		0.00	0.63	0.57	0.00
+2 STD DEV		13.99	86.29	16.46	0.00
-2 STD DEV		1.18	-9.92	-1.10	0.00
+3 STD DEV -3 STD DEV		17.19 -2.02	110.34 -33.98	20.85 -5.49	0.00 0.00

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

International Asbestos Testing Labs 9000 Commerce Parkway Suite B Mt. Laurel, NJ 08054 United States

#### **PROFICIENCY TEST PENALTY POINTS**

TOTAL POINTS:	40
Sample 4	C
Sample 3	
Sample 2	O
Sample 1	40

Failure = 150 or more total points

Prepared by RTI International for

NIST's National Voluntary Laboratory Accreditation Program

For Bulk Asbestos Analysis by PLM

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

### Sample 1 - Type 1

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type > 0.1 %, 75 pts./type if 0.1 %)	AMOS	Amosite	Amosite	
Reporting Additional Asbestos Type (150 pts. if >0.1 %, 75 pts. if 0.1 %)			None	
Mean % Asbestos (50 pts.)	8.5	9.4 %	4.0 % to 14.0 %	
Average Refractive Index (40 pts. each index, 10 pts. If γ ≤α)	α = 1.676 γ = 1.695	α = 1.679 γ = 1.698	α: 1.674 to 1.685 γ: 1.691 to 1.705	
Birefringence (10 pts.)	М	Moderate	Low or Moderate *	
Pleochroism (10 pts.)	N	No	No	
Extinction (10 pts.)	Р	Parallel	Parallel	
Sign of Elongation (10 pts.)	Р	Positive	Positive	
Color (10 pts.)	CL	Colorless	Colorless, Brown, or Other	

<sup>\*</sup> Birefringence results that are correctly calculated based on participant refractive index values will not receive penalty points even if they differ from the reference value. Beginning in round M12019, reported birefringence results that are inconsistent with the reported refractive index values receive penalty points.

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

### Sample 1 - Type 2

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type > 0.1 %, 75 pts./type if 0.1 %)	CHRY	Chrysotile	Chrysotile	
Reporting Additional Asbestos Type (150 pts. if >0.1 %, 75 pts. if 0.1 %)			None	
Mean % Asbestos (50 pts.)	5	4.9 %	0.1 % to 10.0 %	
Average Refractive Index (40 pts. each index, 10 pts. If γ ≤α)	α = 1.544 γ = 1.552	α = 1.550 γ = 1.555	α: 1.545 to 1.554 γ: 1.550 to 1.561	40
Birefringence (10 pts.)	L	Low	Low or Moderate *	
Pleochroism (10 pts.)	N	No	No	
Extinction (10 pts.)	Р	Parallel	Parallel	
Sign of Elongation (10 pts.)	Р	Positive	Positive	
Color (10 pts.)	CL	Colorless	Colorless	

<sup>\*</sup> Birefringence results that are correctly calculated based on participant refractive index values will not receive penalty points even if they differ from the reference value. Beginning in round M12019, reported birefringence results that are inconsistent with the reported refractive index values receive penalty points.

Total Points Assigned for Sample 1: 40

Individual Laboratory Results
NVLAP Lab Code 101165

June 30, 2020

## Sample 2

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type > 0.1 %, 75 pts./type if 0.1 %)	NONE	None	None	
Reporting Additional Asbestos Type (150 pts. if >0.1 %, 75 pts. if 0.1 %)			None	

Total Points Assigned for Sample 2: 0

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

### Sample 3 - Type 1

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type > 0.1 %, 75 pts./type if 0.1 %)	CHRY	Chrysotile	Chrysotile	
Reporting Additional Asbestos Type (150 pts. if >0.1 %, 75 pts. if 0.1 %)			None	
Mean % Asbestos (50 pts.)	5	4.5 %	0.1 % to 9 %	
Average Refractive Index (40 pts. each index, 10 pts. If γ ≤α)	α = 1.545 γ = 1.552	α = 1.549 γ = 1.555	α: 1.545 to 1.554 γ: 1.549 to 1.562	
Birefringence (10 pts.)	L	Low	Low or Moderate *	
Pleochroism (10 pts.)	N	No	No	
Extinction (10 pts.)	Р	Parallel	Parallel	
Sign of Elongation (10 pts.)	Р	Positive	Positive	
Color (10 pts.)	CL	Colorless	Colorless	

<sup>\*</sup> Birefringence results that are correctly calculated based on participant refractive index values will not receive penalty points even if they differ from the reference value. Beginning in round M12019, reported birefringence results that are inconsistent with the refractive index values receive penalty points.

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

## Sample 3 – Type 2

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (Actinolite inhomogeneously distributed)		Actinolite ** or None	Actinolite, Tremolite, or None	
Mean % Asbestos (50 pts.)		0.1 %	0.0 % to 1.0 %	

<sup>\*\*</sup>Actinolite was not confirmed to be present in every sample. Laboratories that reported actinolite or tremolite were only scored on the quantitation. Optical properties of actinolite were not scored for Sample 3.

Total Points Assigned for Sample 3: 0

**Individual Laboratory Results** 

June 30, 2020

#### **NVLAP Lab Code 101165**

### Sample 4

Criteria	Reported by Laboratory	Mean Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type > 0.1 %, 75 pts./type if 0.1 %)	CHRY	Chrysotile	Chrysotile	
Reporting Additional Asbestos Type (150 pts. if >0.1 %, 75 pts. if 0.1 %)			None	
Mean % Asbestos (50 pts.)	15	10.2 %	2.0 % to 19.0 %	
Average Refractive Index (40 pts. each index, 10 pts. If γ ≤α)	α = 1.545 γ = 1.552	α = 1.549 γ = 1.555	α: 1.545 to 1.554 γ: 1.549 to 1.561	
Birefringence (10 pts.)	L	Low	Low or Moderate *	
Pleochroism (10 pts.)	N	No	No	
Extinction (10 pts.)	Р	Parallel	Parallel	
Sign of Elongation (10 pts.)	· P	Positive	Positive	
Color (10 pts.)	CL	Colorless	Colorless	

<sup>\*</sup> Birefringence results that are correctly calculated based on participant refractive index values will not receive penalty points even if they differ from the reference value. Beginning in round M12019, reported birefringence results that are inconsistent with the reported refractive index values receive penalty points.

Total Points Assigned for Sample 4: 0

#### Contacts

#### **International Asbestos Testing Labs**

**NVLAP Lab Code 101165** 

Phone: 856-231-9449

Email: frankehrenfeld@iatl.com

Email: frankehrenfeld@iatl.com

Phone: 856-231-9449

Email: AP@iatl.com; frankehrenfeld@iatl.com

Phone: 856-231-9449

#### **NVLAP AUTHORIZED CONTACT**

Frank Ehrenfeld

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

**United States** 

RTI cannot update the NVLAP Authorized Contact. To make changes, please contact NVLAP: <a href="mailto:nvlap@nist.org">nvlap@nist.org</a>. NVLAP will periodically provide RTI with the current information.

#### **RTI SHIPPING CONTACT**

Frank Ehrenfeld

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

**United States** 

## RTI BILLING CONTACT

Christine Worsham

9000 Commerce Parkway

Suite B

Mt. Laurel, NJ 08054

**United States** 

Please update your shipping or billing contact information on RTI's NVLAP PLM website: <a href="https://nvlap-plm.rti.org/">https://nvlap-plm.rti.org/</a>.

Thank you for participating in the NVLAP Bulk (PLM) Proficiency Testing Program.

# **IATL**

International Asbestos Testing Laboratories

Location: TEM I

				DS aily	Air	QC F	Reanal	- 	NOI Rean		`			<sup>2</sup> Analysis Recor	d		
Date	Time	Initials	<sup>1</sup> Align.	-	Inter	Intra	Blanks	Verified	Inter	Intra	Client	N Y S C	Sample	IAT	L#	Method	<sup>3</sup> Micro
7/30/20	5:04 AM <sup>©</sup>	CL	1	1	14	5	14	3			OHCS		6	70422212	70422217	AHERA	
·	·				13	5	14	3			Air Inter Analyst QC		1	7040574	7040574	ISO	
					12	5	14	3			Air Inter Analyst QC		1	7040584	7040584	ISO (	

## TEM Daily Log

Serial Number:

542-47-3

Model:

Hitachi 600 AB

					Calib	rations				
			W	eekly		1	Monthly			
graph #	DP / BF	Exp. Time (sec)	Camera Const.	<u>Diffrac. On</u> <u>Screen</u>	EDS (Mn)	EDS (Na)	Mag Cal	<u>Beam</u> <u>Dose</u>	Beam Spot	Comments
5920	DP	30								



International Asbestos Testing Laboratories

Location:

**TEM III** 

Must Read

			<sup>4</sup> E		Air	QC R	eanal		NOI Rean	3 QC alyses				<sup>2</sup> Analysis I	Record	
Date	Time	Analyst	<sup>1</sup> Align.	   	Inter	Intra	Blanks	Verified	Inter	Intra	Client	NYS Client	Sample Count	IAI	'L#	Method
7/28/20	7:08 AM	MS	7								LOCKHEED MARTIN		1	7038940	7038940	198.4
											ENVIROTEST		1	7039791	7039791	100.2
							1				L&R		6	7040574	7040579	ISO
7/28/20	3:00 PM	JJ	√					2			VIVA		5	7041147	7041151	AHERA
					1	1		2			OHCS		6	7041237	7041242	AHERA
7/29/20	9:32 AM	MS	1				1	0			L&R		7	7040580	7040586	ISO
7/29/20	3:13 PM	JJ			1.	1		2			RKE		5	7042207	7042211	AHERA
					2	1		2			SYNERTECH		10	7042218	7042227	AHERA
7/30/20	7:36 AM	MS	1				2	1			L&R		2	7040587	7040588	ISO
										Blanks - FB or LB (air) QC Camera Constants SAED Gold Rings L/Ap.(0.3 Objective) SRM 1867 -Amo.			2			
											L&R Replicates		2	7040575	7040585	QC

## TEM Daily Log

Serial Number:

EM18440033

Model:

JEOL, JEM-1230

			1							
					Calibra	ations				
			We	ekly	_	N	Ionthly		_	
<sup>3</sup> Micro graph #	DP / BF	Exp. Time (sec)	Camera Const.	Diffrac. On Screen	EDS (Mn)	EDS (Na)	Mag <u>Cal</u>	Beam Dose	Beam Spot	Comments
7041240-1										
CC073020			31							
OS073020				31						



International Asbestos Testing Laboratories

Location:

**TEM III** 

Must Read

			⁴El Da		Air	QC I	Reanal	1		3 QC alyses				<sup>2</sup> Analysis I	Record	
Date	Time	Analyst	¹Align.	,	Inter	Intra	Blanks	Verified	Inter	Intra	Client	NYS Client	Sample Count	IAI	`L#	Method
8/4/20	7:56 AM	MS	7			1	1	1			L&R		9	7042315	7042323	ISO
8/4/20	3:19 PM	JJ	<b>V</b>		2	1	1	1			L&R		2	7044139	7044140	NIOSH
					2	1	2	1			OHCS		10	7045104	7045113	AHERA
8/5/20	2:51 PM	MS	7			1	1	1			L&R		2	7042324	7042325	ISO
8/5/20	3:32 PM	JJ	<b>√</b>		2	1	2	1			AREC		3	7045309	7045311	NIOSH
					2	1	1	1			Blanks - FB or LB (air) QC		1			NIOSH
					3	2	1	1			TTI		5	7045782	7045786	AHER <i>A</i>
					3	2	2	1			OHCS		10	7045799	7045808	AHER <i>A</i>
8/6/20	7:37 AM	MS	1			1	1	1			L&R		4	7042326	7042329	ISO
											L & R Replicates		2	7042315	7042326	QC
											Blanks - FB or LB (air) QC Camera Constants SAED Gold Rings L/Ap.(0.3 Objective) SRM 1867 - Amo. Mag. Cal. 20k/10k (EMS 80055)		2			
											Spot Size (EMS 80055)  Beam Dose-NIST Chrysotile  Std.					

## TEM Daily Log

Serial Number:

EM18440033

Model:

JEOL, JEM-1230

			T							I I
					Calibra	ations				
			We	ekly		N	Ionthly			
<sup>3</sup> Micro graph #	DP / BF	Exp. Time (sec)	Camera Const.	<u>Diffrac.</u> <u>On</u> Screen	EDS (Mn)	EDS (Na)	Mag <u>Cal</u>	Beam Dose	Beam Spot	Comments
7045111-1										
									·	
				***************************************						
								***************************************	******************************	
7045806-1					***************************************					
							<u> </u>			
CC080620			32							
OS080620				32						
MC0820S/L							8			
SS0820									8	
BD0820								8		



International Asbestos Testing Laboratories

Location:

TEM III

Must Read

			⁴EI Da	Air	QC P	teanal	1	NOI Rean	3 QC alyses				<sup>2</sup> Analysis F	Record	
Date	Time	Analyst	<sup>1</sup> Align.	Inter	Intra	Blanks	Verified	Inter	Intra	Client	NYS Client	Sample Count	IAT	'L#	Method
8/7/20	8:07 AM	MS	1		1		1			L&R		8	7045849	7045856	ISO
8/8/20	12:17 PM	MS	7		1		1			L&R		7	7045857	7045863	ISO
8/10/20	12:14 PM	JJ	7	5	3	3	1			EA GROUP		5	7046925	7046929	AHERA
				5	3	2	1			Blanks - FB or LB (air) QC		1			AHERA
										SGS		2	7043409	7043410	6480
										CREAM RIDGE		2	7042358	7042358	198.4
				5	3	2	1			EA GROUP		5	7046430	7046434	AHER <i>A</i>
				5	3	3	1			EA GROUP		5	7046443	7046447	AHER/
										SJW		1	7044141	7044141	100.2
				6	3	3	1			VIVA		5	7047215	7047219	AHER/
8/11/20	7:53 AM	MS	٧							TEST AMERICA Camera Constants SAED Gold		2	7044698	7044699	100.2
								<u> </u>		Rings					
										L/Ap.(0.3 Objective) SRM 1867 -Amo.					
					2		1			VILLA		5	7047261	7047265	AHER <i>A</i>
										Air Intra Analyst QC		1	7047262	7047262	
										Blanks - FB or LB (air) QC		2			



International Asbestos Testing Laboratories

Location:

TEM III

Must Read

			<sup>4</sup> EDS	Air	· QC R	teanal	yses I	NOE Rean	B QC alyses				<sup>2</sup> Analysis I	Record	
Date	Time	Analyst	Daily <sup>1</sup> Align.	Inter	Intra	Blanks	Verified	Inter	Intra	Client	NYS Client	Sample Count	IAT	L#	Method
					1		1			MPS		2	7047332	7047333	AHERA
										L & R Replicates		2	7045849	7045859	QC

## TEM Daily Log

Serial Number:

EM18440033

Model:

JEOL, JEM-1230

		·			Calibra	ations				
			We	ekly		N	Ionthly			
<sup>3</sup> Micro graph #	DP / BF	Exp. Time (sec)	Camera Const.	<u>Diffrac.</u> <u>On</u> Screen	EDS (Mn)	EDS (Na)	Mag <u>Cal</u>	Beam Dose	Beam Spot	Comments
7046925-1,926-1				-						
				****						
										INTER SUBMITTED
							·			INTER SUBMITTED
CC081120			33							
OS081120				33						
		<b>,,,,,</b>								
										The second secon

## TEM Daily Log

Serial Number:

EM18440033

Model:

JEOL, JEM-1230

=						Calibra	ations				
				Wee	ekly		N	Aonthly			
***************************************	<sup>3</sup> Micro graph #	DP / BF	Exp. Time (sec)	Camera Const.	<u>Diffrac.</u> <u>On</u> <u>Screen</u>	EDS (Mn)	EDS (Na)	Mag <u>Cal</u>	Beam Dose	Beam Spot	Comments

# IATL

International Asbestos Testing Laboratories

Location:

TEM I

				<sup>4</sup> EDS Daily		Air QC Reanalyses				NOB QC Reanalyses			<sup>2</sup> Analysis Record				
Date	Time	Initials	Da <sup>1</sup> Align.		Inter	Intra	Blanks	Verified	Inter	Intra	<b> </b>	Client	N Y S C	Sample Count	IATL#	Method	<sup>3</sup> Micro
8/13/20	4:53 AM	CL	<b>√</b>	<b>V</b>								MAYNARD MARKS		4	7046971 7046974	6480	
						2	4					Air Inter Analyst QC		2	7045850 7045860	ISO	

## TEM Daily Log

Serial Number:

542-47-3

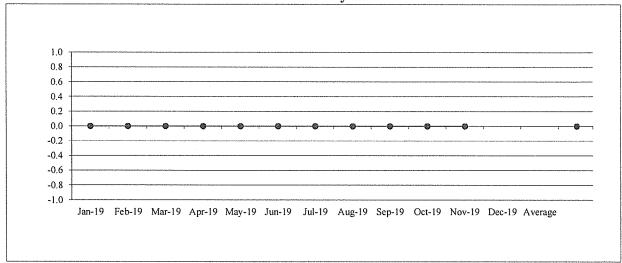
Model: Hitachi 600 AB

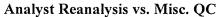
	Calibrations									
			Weekly			Monthly				
graph#	DP / BF	Exp. Time (sec)	Camera Const.	Diffrac. On Screen	EDS (Mn)	EDS (Na)	Mag Cal	Beam Dose	Beam Spot	Comments

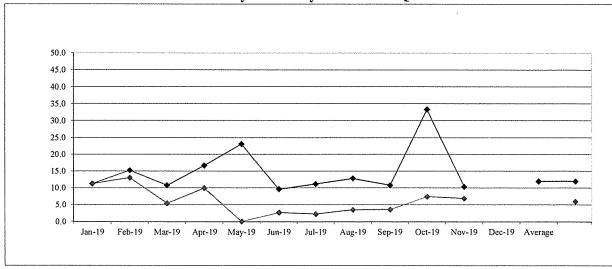


2019						Annu	al QC Sun	ımary - N	A. Stewart
Month	Samples Analyzed	QC Analyzed	% Reanalysis	(Inter) Avg. R	(Intra) Avg. R	Other QC Analyzed	% Other QC	Total QC Analyzed	Total %QC
Jan-19	125	14	11.2	0.00	0.00	14	11.2	28	22.4
Feb-19	46	7	15.2	0.00	0.00	6	13.0	13	28.3
Mar-19	111	12	10.8	0.00	0.00	6	5.4	18	16.2
Apr-19	30	5	16.7	0.00	0.00	3	10.0	8	26.7
May-19	26	6	23.1	NA	NA	0	0.0	6	23.1
Jun-19	261	25	9.6	NA	NA	7	2.7	32	12.3
Jul-19	269	30	11.2	NA	NA	6	2.2	36	13.4
Aug-19	86	11	12.8	NA	NA	3	3.5	14	16.3
Sep-19	111	12	10.8	NA	NA	4	3.6	16	14.4
Oct-19	27	9	33.3	NA	NA	2	7.4	11	40.7
Nov-19	29	3	10.3	NA	NA	2	6.9	5	17.2
Dec-19									
Total	1121	134	12.0			53		187	16.7
Average	102	12	12.0	0.00	0.00	5	6.0	17	

Inter vs. Intra Analyst R Values







#### NVLAP TEM PROFICIENCY TEST 2019 Individual Laboratory Report

Lab code: 101165

International Asbestos Testing Labs

Mt. Laurel, NJ United States

#### LAB ERROR POINT SUMMARY

## Analysis of Four MCE Filters Error Points

Sample 1	0
Sample 2	0
Sample 3	0
Sample 4	0
Other	0
TOTAL ERROR POINTS:	0

(Failure = 150 or more total error points)

#### NVLAP TEM PROFICIENCY TEST 2019 Individual Laboratory Report

Lab code: 101165

Sample 1 - Blank

Asbestos Type	Structures Reported	Reported Concentration (Structs/mm <sup>2</sup> )	Calculated Concentration (Structs/mm <sup>2</sup> )	Error Points *
Chrysotile	0	0.00	0.00	0
Amosite	0	0.00	0.00	0
Crocidolite	0	0.00	0.00	0
Tremolite or Actinolite	0	0.00	0.00	0
Anthophyllite	0	0.00	0.00	0
Total Reported Structures and Mean	0	0.00	0.00	0
Other Error Points (comments below)				0
Total Error Points				0

Additional scoring and acceptance range details are listed in the TEM PT 2019 Summary Report.

#### Comments:

N/A

Sample 2 - Chrysotile

Asbestos Type	Structures Reported	Reported Concentration (Structs/mm <sup>2</sup> )	Calculated Concentration (Structs/mm <sup>2</sup> )	Error Points *
Chrysotile	109	633.72	633.72	0
Amosite	0	0.00	0.00	0
Crocidolite	0	0.00	0.00	0
Tremolite or Actinolite	0	0.00	0.00	0
Anthophyllite	0	0.00	0.00	0
Total Reported Structures and Mean	109	633.72	633.72	0
Other Error Points (comments below)				0
Total Error Points				0

The average concentration of chrysotile reported was 387.52 structures/mm<sup>2</sup>.

The calculated acceptance range was 18.00 to 811.46 structures/mm<sup>2</sup>.

The low and high warning zones were 104.90 and 670.15 structures/mm<sup>2</sup> respectively.

Additional scoring and acceptance range details are listed in the TEM PT 2019 Summary Report.

#### Comments:

N/A

#### NVLAP TEM PROFICIENCY TEST 2019 Individual Laboratory Report

Lab code: 101165

Sample 3 - Blank

Asbestos Type	Structures Reported	Reported Concentration (Structs/mm <sup>2</sup> )	Calculated Concentration (Structs/mm²)	Error Points *
Chrysotile	0	0.00	0.00	0
Amosite	0	0.00	0.60	0
Crocidolite	0	0.00	0.00	0
Tremolite or Actinolite	0	0.00	0.00	0
Anthophyllite	0	0.00	0.00	0
Total Reported Structures and Mean	0	0.00	0.00	0
Other Error Points (comments below)				0
Total Error Points				0

Additional scoring and acceptance range details are listed in the TEM PT 2019 Summary Report.

#### Comments:

N/A

Sample 4 - Crocidolite

Asbestos Type	Structures Reported	Reported Concentration (Structs/mm <sup>2</sup> )	Calculated Concentration (Structs/mm <sup>2</sup> )	Error Points *
Chrysotile	0	0.00	0.00	0
Amosite	0	0.00	0.00	0
Crocidolite	10	58.14	58.14	0
Tremolite or Actinolite	0	0.00	0.00	0
Anthophyllite	0	0.00	0.00	0
Total Reported Structures and Mean	10	58.14	58.14	0
Other Error Points (comments below)				0
Total Error Points				0

The average concentration of crocidolite reported was 139.63 structures/mm<sup>2</sup>.

The calculated acceptance range was 18.00 to 290.84 structures/mm<sup>2</sup>.

The low and high warning zones were 38.82 and 240.44 structures/mm<sup>2</sup> respectively.

Additional scoring and acceptance range details are listed in the TEM PT 2019 Summary Report.

#### Comments:

N/A

#### Other Error Points:

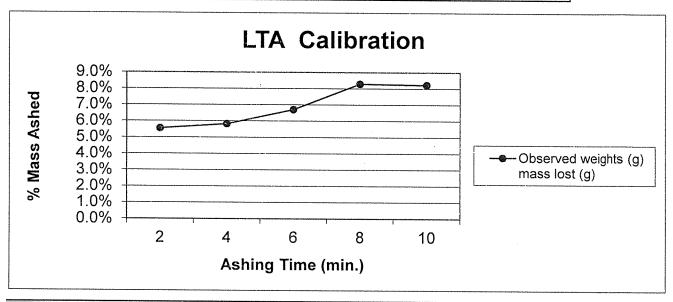
N/A

## August-20

## Low Temperature Asher Calibration

PT7100 Biorad

	Observed weights (g)												
Ashing Time (min)	Slide	Slide & filter	Filter	*Ashed filter & slide	mass lost (g)	mass lost ( %)							
2	4.6921	4.7408	0.0487	4.7381	0.0027	5.5%							
4	4.4807	4.5323	0.0516	4.5293	0.0030	5.8%							
6	4.7746	4.8239	0.0493	4.8206	0.0033	6.7%							
8	4.8039	4.8510	0.0471	4.8471	0.0039	8.3%							
10	4.5850	4.6349	0.0499	4.6308	0.0041	8.2%							



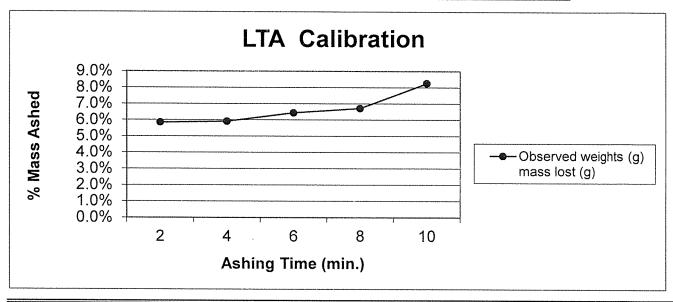
<sup>\*</sup> See the "TD 48000" Furnace Calibration Log for details.

Comments:			
	Calibration Analyst:	Benjamin Reich	Date: 4-Aug-20
	Reviewer:		Date:

## Low Temperature Asher Calibration

PT7100 Biorad

		o	bserved w	eights (g)		
Ashing Time (min)	Slide	Slide & filter	Filter	*Ashed filter & slide	mass lost (g)	mass lost ( %)
2	4.7093	4.7555	0.0462	4.7528	0.0027	5.8%
4	4.9188	4.9679	0.0491	4.9650	0.0029	5.9%
6	4.8604	4.9117	0.0513	4.9084	0.0033	6.4%
8	4.8132	4.8609	0.0477	4.8577	0.0032	6.7%
10	4.5047	4.5532	0.0485	4.5492	0.0040	8.2%



<sup>\*</sup> See the "TD 48000" Furnace Calibration Log for details.

Comments: _			
	Calibration Analyst:	Benjamin Reich	Date: 8-Jul-20
	Reviewer:		Date:

## **TEM Finder Grid Calibration**

All measurements are made using a calibrated Walton-Beckett graticule in an Olympus CH-2

Date: 5/22/2020

CH2 light microscope at 400X magnification.

Manufacturer:

**EMS** 

All grids measured are Electron Microscopy Sciences Indexed 200 mesh copper grids. All grids measured in microns.

Lot #:

200120

Opening #	Grid 1	Grid 2	Grid 3	Grid 4	Grid 5	Grid 6	Grid 7	Grid 8	Grid 9	Grid 10	Grid 11	Grid 12	Grid 13	Grid 14	Grid 15	Grid 16	Grid 17	Grid 18	Grid 19	Grid 20
1	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
2	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
3	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
4	115	115	115	115	115	115	115	115	115	115 '	115	115	115	115	115	115	115	115	115	115
5	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
6	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
7	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
8	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
9	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
10	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
11	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
12	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
13	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
14	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
15	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
16	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
17	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
18	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
19	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
20	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Average grid area (mm²)	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013

Average grid area (mm²):

0.013

2s:

0

Calibration Analyst:

Date 5/22/2020

Reviewer: Date



## **TEM Finder Grid Calibration**

All measurements are made using a calibrated Walton-Beckett graticule in an Olympus CH-2 CH2 light microscope at 400X magnification.

All grids measured are Electron Microscopy Sciences Indexed 200 mesh copper grids.

All grids measured in microns.

Date: 8/10/2020

Manufacturer:

**EMS** 

Lot #: 200618

Opening #	Grid 1	Grid 2	Grid 3	Grid 4	Grid 5	Grid 6	Grid 7	Grid 8	Grid 9	Grid 10	Grid 11	Grid 12	Grid 13	Grid 14	Grid 15	Grid 16	Grid 17	Grid 18	Grid 19	Grid 20
1	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
2	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
3	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
4	145	115	115	115	115	115	115	115	115	115	115	115	115	115	·115	115	115	115	115	115
5	115	115	115	115	¹i 15	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
6	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
7	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
8	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
9	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
10	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
11	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
12	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
13	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
14	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
15	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
16	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
17	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
18	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
19	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
20	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Average grid area (mm²)	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013

Average	arid area	/mm21.
---------	-----------	--------

0.013

2s:

0

Calibration Analyst: BR

Reviewer:

Date <u>8/10/2020</u>

Date

iATL FinderGridCal 002

## July-20

## **EDS Calibration Al-Cu**

TEM ID:

H 600AB, 542-47-3

TEM:

I

EDXA ID:

EVEX, EDXA System

NYSDOH- ELAP
NIST - NIVI AP

 $\pm 10 eV$ 

± 20eV

Αl Cu 1.486 8.045 Average Std Dev 0.0040 0.0032 8.040 Min 1.482

Emboldened energy entries indicate values outside of ELAP requirements. (Al / Cu calibration is required before proceeding)

1.492 8.052 Max 5% of Mean 0.0743 0.4022 2 Std Dev. 0.0080 0.0064

Cu Al Al LCL Al UCL Date: Cu LCL Cu UCL (1.487keV) (8.047keV) Average 1.486 8.045 1.477 1.497 8.037 8.057 7/1/20 1.488 8.042 1.477 1.497 8.037 8.057 7/3/20 1.489 8.040 1.477 1.497 8.037 8.057 7/7/20 1.482 8.044 1.477 1.497 8.037 8.057 7/9/20 1.483 8.046 1.477 1.497 8.037 8.057 7/10/20 1.482 8.044 1.477 1.497 8.037 8.057 7/11/20 1.482 8.044 1.477 1.497 8.037 8.057 7/14/20 1.490 8.044 1.477 8.037 8.057 1.497 7/15/20 1.482 8.044 1.477 1.497 8.037 8.057 7/16/20 1.482 8.052 1.477 1.497 8.037 8.057 7/17/20 1.490 8.0441.477 1.497 8.037 8.057 7/18/20 1.482 8.044 1.477 1.497 8.037 8.057 7/21/20 1.490 8.044 1.477 8.037 8.057 1.497 7/22/20 1.490 8.044 1.477 1.497 8.037 8.057 7/23/20 1.490 8.041 1.477 1.497 8.037 8.057 1.477 1.497 8.037 7/25/20 1.482 8.046 8.057 8.037 8.057 7/28/20 1.482 8.042 1.477 1.497 1.492 8.037 8.057 7/29/20 8.049 1.477 1.497 7/30/20 1.483 8.044 1.477 1.497 8.037 8.057 7/31/20 1.490 8.052 1.477 1.497 8.037 8.057

## August-20

## **EDS Calibration Al-Cu**

**TEM ID:** H 600AB, 542-47-3

TEM: I

EDXA ID: EVEX, EDXA System

	•		Al	Cu
NYSDOH- ELAP	± 10eV	Average	1.488	8.046
NIST - NVLAP	$\pm 20 \text{eV}$	Std Dev	0.0034	0.0042
	1	Min	1.482	8.041
Emboldened energy er	tries indicate values outside of ELAP requirements.	Max	1.495	8.053
(Al / Cu calibration is	required before proceeding)	5% of Mean	0.0744	0.4023
		2 Std Dev.	0.0069	0.0085

					2 Std Dev.	0.0069
Date:	Al (1.487keV)	Cu (8.047keV)	Al LCL	Al UCL	Cu LCL	Cu UCL
Average	1.488	8.046	1.477	1.497	8.037	8.057
8/1/20	1.490	8.052	1.477	1.497	8.037	8.057
8/3/20	1.490	8.044	1.477	1.497	8.037	8.057
8/5/20	1.490	8.044	1.477	1.497	8.037	8.057
8/6/20	1.493	8.044	1.477	1.497	8.037	8.057
8/8/20	1.489	8.052	1.477	1.497	8.037	8.057
8/13/20	1.490	8.044	1.477	1.497	8.037	8.057
8/14/20	1.482	8.044	1.477	1.497	8.037	8.057
8/15/20	1.490	8.044	1.477	1.497	8.037	8.057
8/17/20	1.482	8.044	1.477	1.497	8.037	8.057
8/18/20	1.487	8.053	1.477	1.497	8.037	8.057
8/19/20	1.495	8.053	1.477	1.497	8.037	8.057
8/20/20	1.485	8.045	1.477	1.497	8.037	8.057
8/21/20	1.487	8.041	1.477	1.497	8.037	8.057
8/22/20	1.487	8.053	1.477	1.497	8.037	8.057
8/25/20	1.487	8.045	1.477	1.497	8.037	8.057
8/26/20	1.487	8.045	1.477	1.497	8.037	8.057
8/27/20	1.485	8.042	1.477	1.497	8.037	8.057

I

2020 **EDS** Resolution

H 600AB, 542-47-3 TEM ID:

Thermo, EDXA System EDXA ID: Statisics and Limits based upon 730 Day historic data.

1 Rate Const.: Average:

Std Dev: 4.67

5% of Mean: 6.43

TEM:

2 Std Dev.: 9.34

	Date:	Data:	A	В	C	Ð	Max	Half Max	Resolution KeV
		Energy	5.82	5.83	5.94	5.95	5.90	5.90	
1_	28-Jan	Counts	898	1109	1210	910	2006	1003	122
		Energy	5.81	5.82	5.94	5.95	5.90	5.90	
2_	29-Feb	Counts	995	1223	1251	888	2015	1008	136
		Energy	5.80	5.81	5.94	5.95	5.90	5.90	
3_	13-Mar	Counts	900	1300	1204	926	2008	1004	145
		Energy	5.81	5.82	5.93	5.94	5.88	5.90	
4_	18-Apr	Counts	4144	5224	5229	4361	8807	4404	127
		Energy	5.81	5.82	5.94	5.95	5.88	5.90	
5_	22-May	Counts	2523	3031	2574	2028	5081	2541	130
		Energy	5.81	5.82	5.93	5.94	5.90	5.90	
6_	30-Jun	Counts	872	1054	1122	952	2000	1000	120
		Energy	5.81	5.82	5.93	5.94	5.90	5.90	
7_	22-Jul	Counts	815	1002	1153	967	2000	1000	118
		Energy	5.81	5.82	5.94	5.95	5.90	5.90	
8_	20-Aug	Counts	821	1108	1159	903	2000	1000	130
		Energy							
9_		Counts							
		Energy							
10_		Counts							
		Energy							
11_		Counts							
		Energy							ı
12_		Counts							
		Energy							
13_		Counts							
	Average Std Dev.								129 8.8



2020 TEM ID: **Minimum Detection Limit Calculations** 

H 600AB, 542-47-3

TEM I **NIST Crocidolite Standard** 

EDXA ID: Thermo, EDXA System

Date	Na Peak Counts n <sub>Na</sub>		Background	Peak Counts		Average Background Counts $n_{ m b}$	Average Net Counts $n_{\text{net}=}n_{\text{Na}}-n_{\text{b}}$	Computed Na Peak Standard Deviation $\sigma_{\text{net}} = \sqrt{(2n_b + n_{\text{net}})}$	Peak Significance $n_{\text{net}} \ge 2\sigma_{\text{net}}$
		@0.840 keV	@0.910 keV	@1.170 keV	@2.280 keV				
1/28/20	329	61	222	46	27	89.0	240.0	20.4	TRUE
2/29/20	151	22	105	15	14	39.0	112.0	13.8	TRUE
3/26/20	103	15	19	13	12	14.8	88.3	10.9	TRUE
4/18/20	98	26	47	28	8	27.3	70.8	11.2	TRUE
5/22/20	902	118	286	218	134	189.0	713.0	33.0	TRUE
6/27/20	45	11	23	8	4	11.5	33.5	7.5	TRUE
7/29/20	237	37	94	47	15	48.3	188.8	16.9	TRUE
8/20/20	50	8	11	10	6	8.8	41.3	7.7	TRUE

Ca peak in Crocidolite standard: Peak shown to be insignificant.

185.9 17.1 TRUE 53.4 239.375 37.25 48.125 27.5 100.875 Average

Note:  $n_{\text{net}}$  cannot be calculated from a single spectrum but averages from multiple spectra show that  $n_{\text{Na}} - n_{\text{b}} \cong n_{\text{net}}$ . For calibration purposes, one can approximate  $n_{\text{net}} \cong n_{\text{net}}$ .



2020

## **Beam Dose Calibration**

TEM ID:

JEOL, JEM-1230

EDXA ID:

Evex, EDX System

TEM:

III

		Exposure							
Date	Micrograph #	Time		;	SAEDP (	Observed			
1/16/20	BD0120	2	002,	004,	110,	130,	200,	220,	
2/3/20	BD0220	2	002,	004,	110,	130,	200,	220,	
3/19/20	BD0320	2	002,	004,	110,	130,	200,	220,	The associated with a finished
4/21/20	BD0420	2	002,	004,	110,	130,	200,	220,	******
5/7/20	BD0520	2	002,	004,	110,	130,	200,	220,	
6/30/20	CC063020	2	002,	004,	110,	130,	200,	220,	
7/8/20	BD0720	2	002,	004,	110,	130,	200,	220,	
8/6/20	BD0820	2	002,	004,	110,	130,	200,	220,	
September	n paga ang ang ang ang ang ang ang ang ang								
Getober		# - 100 - 1-1							
Navember									
December									

Probe Setting:	Fine	
Spot size	60 μm	
Power	100 kV	
Diff. Mode Setting:	0.6 M	

Ш



**Beam Spot Size** 2020

TEM ID:

JEOL, JEM-1230

EDXA ID:

Evex, EDX System

Statisics and Limits based upon 730 Day historic data.

TEM:

Average:

0.0816

Std Dev:

0.00894

5% of Mean:

0.00408

2 Std Dev.:

0.0179

Date	Micrograph #	Magnification Setting	Spot (cm)	Sphere (cm)	Observed Size (µm)	Probe Size (µm)	Comments
Average					0.151		
1/16/20	SS0120	20000	0.195	0.254	0.192	0.020	
2/3/20	SS0220	20000	0.211	0.275	0.192	0.020	
3/19/20	SS0320	20000	0.153	0.256	0.149	0.020	
4/21/20	SS0420	20000	0.117	0.286	0.102	0.020	
5/7/20	SS0520	20000	0.111	0.244	0.114	0.020	
6/6/20	SS0620	20000	0.149	0.250	0.149	0.020	
7/8/20	SS0720	20000	0.160	0.260	0.154	0.020	
8/6/20	SS0820	20000	0.172	0.269	0.160	0.020	
				and the second s			
Value for an extensive books and reason was to a reason around			3				

Using Magnification Grating, 2160 lines/mm<sup>2</sup> with poly-spheres, 0.25 μm.

III

TEM:

August-20 Camera Constant

TEM ID:

JEOL, JEM-1230, EM18440033

EDXA ID:

Evex, EDX System

Energy:

120 KeV

Statisics and Limits based upon 730 Day historic data.

#### **Inner Ring Inner & Outer Rings**

Average: 71.70 Average: 72.02 Std Dev.: 1.61 Std Dev.: 1.52 5% of Mean: 3.58 5% of Mean: 3.60 3.21 3.05

Acceptable Range: 68.48 74.90941763 Acceptable Range: 68.97 75.066618

Date	Analyst	Micrograph	Ring #	D(mm)	R (mm)	d (A)	W (A)	L (mm)	CC
8/6/20	MS	CC080620	1-0°	60	30	2.355	0.037	1909.46	70.65
			1- 45°	60	30	2.355	0.037	1909.46	70.65
~~~~			1- 90°	60	30	2.355	0.037	1909.46	70.65
			3	99	49.5	1.442	0.037	1929.16	71.38
			4	115.5	57.75	1.231	0.037	1921.36	71.09
8/11/20	MS	CC081120	1-0°	60	30	2.355	0.037	1909.46	70.65
			1-45°	59.5	29.75	2.355	0.037	1893.55	70.06
	PP 1 NP PP 1 NP 1 NP 1 NP 1 NP 1 NP 1 N		1- 90°	60.5	30.25	2.355	0.037	1925.37	71.24
			3	100.0	50	1.442	0.037	1948.65	72.10
			4	117	58.5	1.231	0.037	1946.31	72.01
8/22/20	MS	CC082220	1-0°	63	31.5	2.355	0.037	2004.93	74.18
			1-45°	62.5	31.25	2.355	0.037	1989.02	73.59
			1- 90°	62.5	31.25	2.355	0.037	1989.02	73.59
			3	103	51.5	1.442	0.037	2007.11	74.26
			4	120.5	60.25	1.231	0.037	2004.53	74.17
			1-0°			2.355	0.037		
			1-45°			2.355	0.037		
			1- 90°			2.355	0.037		
			3			1.442	0.037		
			4			1.231	0.037		
			1-0°			2.355	0.037		
			1- 45°			2.355	0.037		
			1- 90°			2.355	0.037		
			3			1.442	0.037		
			4			1.231	0.037		

Average: 1913.41 72.02 SD

1.52

III

TEM:

July-20 Camera Constant

TEM ID:

JEOL, JEM-1230, EM18440033

EDXA ID:

Evex, EDX System

Energy:

120 KeV

Statisics and Limits based upon 730 Day historic data.

### **Inner Ring**

71.04 **Average:** 71.11 0.58 **Std Dev.:** 0.54

5% of Mean:

Average:

Std Dev.:

3.55 1.16

5

**5% of Mean:** 3.56 **2s:** 1.07

**Inner & Outer Rings** 

**Acceptable Range:** 69.88 72.20202185 **Acceptable Range:** 70.04 72.182267

Date	Analyst	Micrograph	Ring #	D(mm)	R (mm)	d (A)	W (A)	L (mm)	CC
7/7/20	MS	CC070720	1-0°	60.5	30.25	2.355	0.037	1925.37	71.24
			1- 45°	60.5	30.25	2.355	0.037	1925.37	71.24
			1- 90°	60	30	2.355	0.037	1909.46	70.65
			3	98	49	1.442	0.037	1909.68	70.66
	***************************************		4	115	57.5	1.231	0.037	1913.04	70.78
7/15/20	MS	CC071520	1-0°	59.5	29.75	2.355	0.037	1893.55	70.06
			1- 45°	59.5	29.75	2.355	0.037	1893.55	70.06
	and the second for a field of the last of the last of probability and properly any property or propagation, or		1- 90°	60	30	2.355	0.037	1909.46	70.65
			3	98.0	49	1.442	0.037	1909.68	70.66
			4	115.5	57.75	1.231	0.037	1921.36	71.09
7/22/20	MS	CC072220	1-0°	60.5	30.25	2.355	0.037	1925.37	71.24
			1-45°	60.5	30.25	2.355	0.037	1925.37	71.24
			1- 90°	60.5	30.25	2.355	0.037	1925.37	71.24
			3	99	49.5	1.442	0.037	1929.16	71.38
			4	116.5	58.25	1.231	0.037	1937.99	71.71
7/30/20	MS	CC073020	1-0°	61	30.5	2.355	0.037	1941.28	71.83
			1-45°	61	30.5	2.355	0.037	1941.28	71.83
			1- 90°	60.5	30.25	2.355	0.037	1925.37	71.24
			3	99.5	49.75	1.442	0.037	1938.91	71.74
			4	116.5	58.25	1.231	0.037	1937.99	71.71
			1-0°			2.355	0.037		
			1- 45°			2.355	0.037		
			1- 90°			2.355	0.037		
			3			1.442	0.037		
			4			1.231	0.037		

Average: 1909.93 71.11
SD 0.54
5% of Mean 3.56
2s 1.07

III

International Asbestos Testing Laboratories

2020

Magnification Calibration Checks

TEM ID:

JEOL, JEM-1230, EM18440033

TEM:

EDXA ID:

EVEX, EDX System

Date	Photo# (20k)	Sphere(20k)	Photo# (2k)	Lines(10k)	40,000	800,000
7/8/20	MC0720S	0.260	MC0720L	4.40	44,182	747,692
8/6/20	MC0820S	0.269	MC0820L	4.46	43,587	722,677



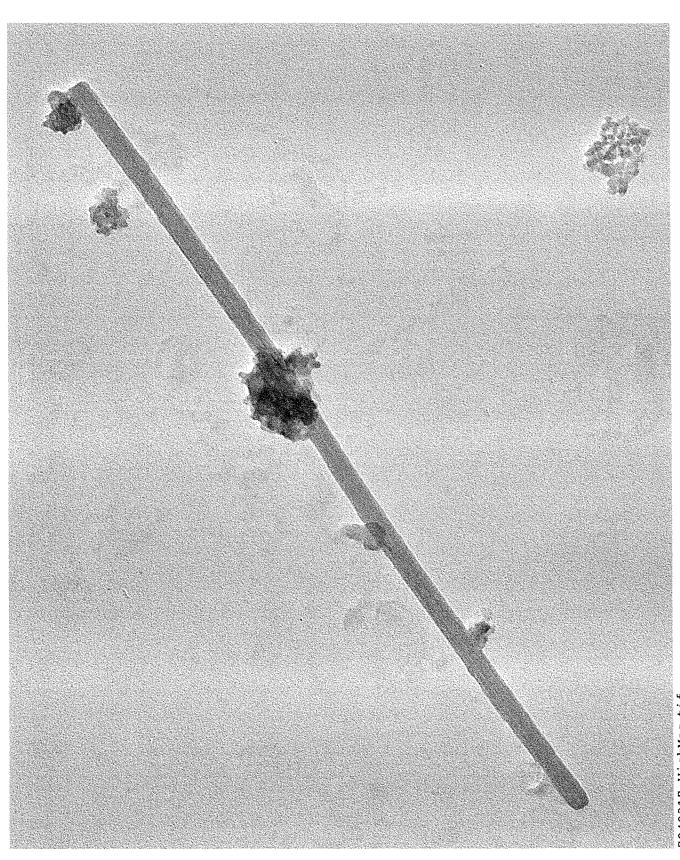
7042317-1.tif 7042317-1

10:11 08/04/20 TEM Mode: Diffraction

Microscopist: MS

AMT Camera System

Cam Len: 0.2 m



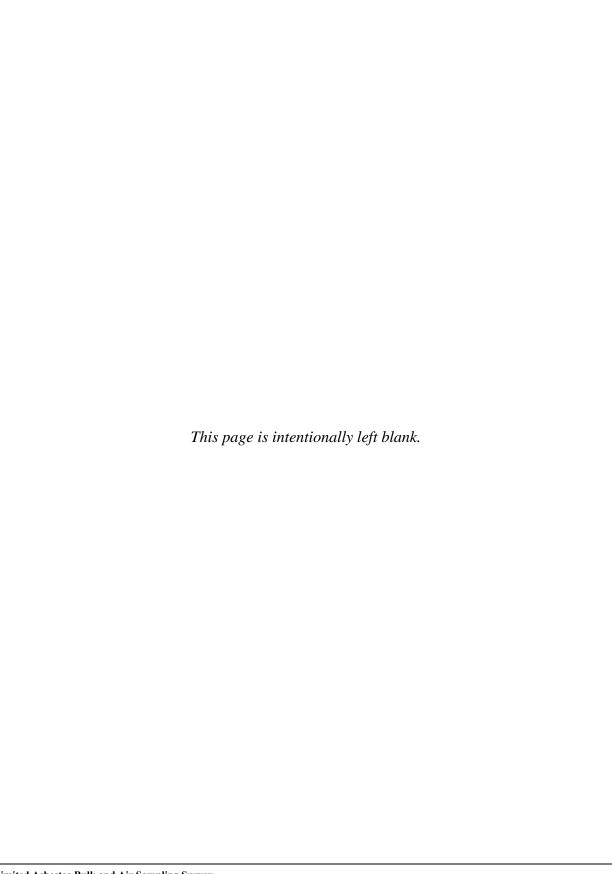
7042317-HighMag.tif 7042317-HM

Print Mag: 95800x @ 7.0 in 14:08 08/28/20

TEM Mode: Imaging Microscopist: MS

100 nm HV=95kV

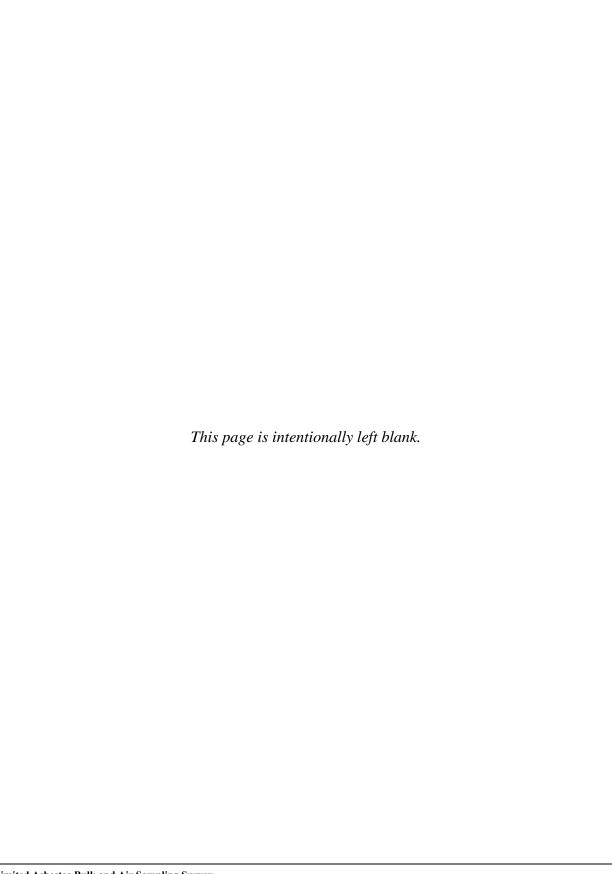
Direct Mag: 12000x AMT Camera System





Appendix H: Data Usability Report

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# FPM Remediations, Inc. Data Verification and Usability Report Mountain Home AFB Asbestos Sampling

## FPM Project No. 1085-20-01-01:a

Bulk: iATL Job #614712, Air: iATL Jobs #617132, 617346, 617671

Laboratory: International Asbestos Testing Laboratories (iATL)

Sample Matrix: Bulk Samples and Air Samples

Number of Samples: 50 and 45, respectively

Analytical Protocol: Per project-specific UFP QAPP, USEPA PLM Guidelines, USEPA

**TEM Guidelines** 

Data Reviewer: Connie van Hoesel

Sample Dates: Bulk: June 4-5, 2020; Air: July 21, 29, and August 5, 2020

#### LIST OF DATA VERIFICATION SAMPLES

This verification report pertains to the following environmental samples and corresponding QC samples:

L&R SAMPLE NUMBER	Lab Sample ID	Sample Date	Analysis, Method (PLM/TEM)
SDG 614712			
LF043-B-01-NE-1	7020393	6/4-6/5/2020	Bulk, PLM
LF043-B-02-NE-1	7020394	6/4-6/5/2020	Bulk, PLM
LF043-B-03-NE-1	7020395	6/4-6/5/2020	Bulk, PLM
LF043-B-04-NE-1	7020396	6/4-6/5/2020	Bulk, PLM
LF043-B-05-NE-1	7020397	6/4-6/5/2020	Bulk, PLM
LF043-B-06-NE-1	7020398	6/4-6/5/2020	Bulk, PLM
LF043-B-07-NE-1	7020399	6/4-6/5/2020	Bulk, PLM
LF043-B-08-NE-1	7020400	6/4-6/5/2020	Bulk, PLM
LF043-B-09-NE-1	7020401	6/4-6/5/2020	Bulk, PLM
LF043-B-10-NE-1	7020402	6/4-6/5/2020	Bulk, PLM
LF043-B-11-NE-1	7020403	6/4-6/5/2020	Bulk, PLM
LF043-B-12-NE-1	7020404	6/4-6/5/2020	Bulk, PLM
LF043-B-13-NE-1	7020405	6/4-6/5/2020	Bulk, PLM
LF043-B-14-NE-1	7020406	6/4-6/5/2020	Bulk, PLM
LF043-B-15-NE-1	7020407	6/4-6/5/2020	Bulk, PLM
LF043-B-16-NE-1	7020408	6/4-6/5/2020	Bulk, PLM
LF043-B-17-NE-1	7020409	6/4-6/5/2020	Bulk, PLM
LF043-B-18-NE-1	7020410	6/4-6/5/2020	Bulk, PLM
LF043-B-19-NE-1	7020411	6/4-6/5/2020	Bulk, PLM
LF043-B-20-NE-1	7020412	6/4-6/5/2020	Bulk, PLM
LF043-B-21-NW-2	7020413	6/4-6/5/2020	Bulk, PLM
LF043-B-22-NW-2	7020414	6/4-6/5/2020	Bulk, PLM

L&R SAMPLE NUMBER	Lab Sample ID	Sample Date	Analysis, Method (PLM/TEM)
LF043-B-23-NW-2	7020415	6/4-6/5/2020	Bulk, PLM
LF043-B-24-NW-2	7020416	6/4-6/5/2020	Bulk, PLM
LF043-B-25-NW-2	7020417	6/4-6/5/2020	Bulk, PLM
LF043-B-26-NW-2	7020418	6/4-6/5/2020	Bulk, PLM
LF043-B-27-NW-2	7020419	6/4-6/5/2020	Bulk, PLM
LF043-B-28-NW-2	7020420	6/4-6/5/2020	Bulk, PLM
LF043-B-29-NW-2	7020421	6/4-6/5/2020	Bulk, PLM
LF043-B-30-NW-2	7020422	6/4-6/5/2020	Bulk, PLM
LF043-B-31-NW-2	7020423	6/4-6/5/2020	Bulk, PLM
LF043-B-32-NW-2	7020424	6/4-6/5/2020	Bulk, PLM
LF043-B-33-NW-2	7020425	6/4-6/5/2020	Bulk, PLM
LF043-B-34-NW-2	7020426	6/4-6/5/2020	Bulk, PLM
LF043-B-35-NW-2	7020427	6/4-6/5/2020	Bulk, PLM
LF043-B-36-NW-2	7020428	6/4-6/5/2020	Bulk, PLM
LF043-B-37-NW-2	7020429	6/4-6/5/2020	Bulk, PLM
LF043-B-38-NW-2	7020430	6/4-6/5/2020	Bulk, PLM
LF043-B-39-NW-2	7020431	6/4-6/5/2020	Bulk, PLM
LF043-B-40-NW-2	7020432	6/4-6/5/2020	Bulk, PLM
LF043-B-41-SE-2	7020433	6/4-6/5/2020	Bulk, PLM
LF043-B-42-SE-2	7020434	6/4-6/5/2020	Bulk, PLM
LF043-B-43-SE-2	7020435	6/4-6/5/2020	Bulk, PLM
LF043-B-44-SE-2	7020436	6/4-6/5/2020	Bulk, PLM
LF043-B-45-SE-2	7020437	6/4-6/5/2020	Bulk, PLM
LF043-B-46-SW-2	7020438	6/4-6/5/2020	Bulk, PLM
LF043-B-47-SW-2	7020439	6/4-6/5/2020	Bulk, PLM
LF043-B-48-SW-2	7020440	6/4-6/5/2020	Bulk, PLM
LF043-B-49-SW-2	7020441	6/4-6/5/2020	Bulk, PLM
LF043-B-50-SW-2	7020442	6/4-6/5/2020	Bulk, PLM
SDG 617132 <sup>1</sup>			_
LF043-A-01-SE-1/(01 on COC)	7040574	7/21/2020-7/22/2020	Air, TEM
LF043-A-02-SE-1/(02 on COC)	7040575R	7/21/2020-7/22/2020	Air, TEM
LF043-A-02-SE-1/(02 on COC)	7040575	7/21/2020-7/22/2020	Air, TEM
LF043-A-03-NE-1/(03 on COC)	7040576	7/21/2020-7/22/2020	Air, TEM
LF043-A-04-NE-1/(04 on COC)	7040577	7/21/2020-7/22/2020	Air, TEM
LF043-A-05-NE-1/(05 on COC)	7040578	7/21/2020-7/22/2020	Air, TEM
LF043-A-06-NW-1/(06 on COC)	7040579	7/21/2020-7/22/2020	Air, TEM
LF043-A-07-NW-1/(07 on COC)	7040580	7/21/2020-7/22/2020	Air, TEM
LF043-A-08-NW-1/(08 on COC)	7040581	7/21/2020-7/22/2020	Air, TEM
LF043-A-09-NW-1/(09 on COC)	7040582	7/21/2020-7/22/2020	Air, TEM
LF043-A-10-NW-1/(10 on COC)	7040583	7/21/2020-7/22/2020	Air, TEM
LF043-A-11-SW-1/(11 on COC)	7040584	7/21/2020-7/22/2020	Air, TEM
LF043-A-12-SW-1/(12 on COC)	7040585	7/21/2020-7/22/2020	Air, TEM
LF043-A-12-SW-1/(12 on COC)	7040585R	7/21/2020-7/22/2020	Air, TEM
LF043-A-13-N-1/(13 on COC)	7040586	7/21/2020-7/22/2020	Air, TEM

L&R SAMPLE NUMBER	Lab Sample ID	Sample Date	Analysis, Method (PLM/TEM)
LF043-A-14-B-1/(14 on COC) <sup>2</sup>	7040587	7/21/2020-7/22/2020	Air, TEM
LF043-A-15-B-1/(15 on COC) <sup>2</sup>	7040588	7/21/2020-7/22/2020	Air, TEM
SDG 617346 <sup>1</sup>			
LF043-A-16-SE-2/(01 on COC)	7042315	7/28/2020	Air, TEM
LF043-A-16-SE-2/(01 on COC)	7042315-REP	7/28/2020	Air, TEM
LF043-A-17-SE-2/(02 on COC)	7042316	7/28/2020	Air, TEM
LF043-A-18-NE-2/(03 on COC)	7042317	7/28/2020	Air, TEM
LF043-A-19-NE-2/(04 on COC)	7042318	7/28/2020	Air, TEM
LF043-A-20-NE-2/(05 on COC)	7042319	7/28/2020	Air, TEM
LF043-A-21-NW-2/(06 on COC)	7042320	7/28/2020	Air, TEM
LF043-A-22-NW-2/(07 on COC)	7042321	7/28/2020	Air, TEM
LF043-A-23-NW-2/(08 on COC)	7042322	7/28/2020	Air, TEM
LF043-A-24-NW-2/(09 on COC)	7042323	7/28/2020	Air, TEM
LF043-A-25-NW-2/(10 on COC)	7042324	7/28/2020	Air, TEM
LF043-A-26-SW-2/(11 on COC)	7042325	7/28/2020	Air, TEM
LF043-A-27-SW-2/(12 on COC)	7042326	7/28/2020	Air, TEM
LF043-A-27-SW-2/(12 on COC)	7042326-REP	7/28/2020	Air, TEM
LF043-A-28-N-2/(13 on COC)	7042327	7/28/2020	Air, TEM
LF043-A-29-B-2/(14 on COC) <sup>2</sup>	7042328	7/28/2020	Air, TEM
LF043-A-30-B-2/(15 on COC) <sup>2</sup>	7042329	7/28/2020-7/29/2020	Air, TEM
SDG 617671 <sup>1</sup>			
LF043-A-31-SE-3/(01 on COC)	7045849	8/4/2020	Air, TEM
LF043-A-31-SE-3/(01 on COC)	7045849-rep	8/4/2020	Air, TEM
LF043-A-32-SE-3/(02 on COC)	7045850	8/4/2020	Air, TEM
LF043-A-33-NE-3/(03 on COC)	7045851	8/4/2020	Air, TEM
LF043-A-34-NE-3/(04 on COC)	7045852	8/4/2020	Air, TEM
LF043-A-35-NE-3/(05 on COC)	7045853	8/4/2020	Air, TEM
LF043-A-36-NW-3/(06 on COC)	7045854	8/4/2020	Air, TEM
LF043-A-37-NW-3/(07 on COC)	7045855	8/4/2020	Air, TEM
LF043-A-38-NW-3/(08 on COC)	7045856	8/4/2020	Air, TEM
LF043-A-39-NW-3/(09 on COC)	7045857	8/4/2020	Air, TEM
LF043-A-40-NW-3/(10 on COC)	7045858	8/4/2020	Air, TEM
LF043-A-41-SW-3/(11 on COC)	7045859	8/4/2020	Air, TEM
LF043-A-41-SW-3/(11 on COC)	7045859-rep	8/4/2020	Air, TEM
LF043-A-42-SW-3/(12 on COC)	7045860	8/4/2020	Air, TEM
LF043-A-43-N-3/(13 on COC)	7045861	8/4/2020	Air, TEM
LF043-A-44-B-3/(14 on COC) <sup>2</sup>	7045862	8/4/2020	Air, TEM
LF043-A-45-B-3/(15 on COC) <sup>2</sup>	7045863	8/4/2020	Air, TEM

Notes: 'Two laboratory blanks were also analyzed as part of this SDG.
<sup>2</sup>Field blank.

## **ANALYTICAL METHODS**

The analytical test methods and QA/QC requirements used for the sample analyses were per methods as specified in the project-specific QAPP. The analytical methods employed included

asbestos by Polarized Light Microscopy (PLM) by Method USEPA 600/R-93/116/PLM.007 and by Transmission Electron Microscope (TEM) by Method ISO10312:2019/TEM.002.

#### **DELIVERABLES**

The data deliverable reports were per requirements of the method SOPs, as specified in the project-specific QAPP (FPM, 2020). The PLM report consisted of the following: batch/sample management report summary, lab correspondence, chain-of-custody, sample log, bench worksheets, daily QA/QC worksheets, PLM Microscope Logs, Refractive Index Oil Calibration Check, PLM Round Robin results, and NVLAP Bulk Asbestos Proficiency Test results. The TEM reports consisted of the following: batch/sample management report summary, lab correspondence, chain-of-custody, sample log, TEM air sample worksheets, Final Results Summary sheets, TEM Daily Log sheets, Inter/Intra analyst R calculations, NVLAP TEM Proficiency Test results, and sheets for the following: Low Temperature Asher Calibration, TEM Finder Grid Calibration, EDS Calibration Al-Cu, EDS Resolution, Minimum Detection Limit Calculations (TEM), Beam Dose Calibration, Beam Spot Size, Camera Constant, and Magnification Calibration Checks.

#### VERIFICATION GUIDANCE

The analytical work was performed by iATL in accordance with the QC requirements of the respective analytical methods and of the QAPP. The data usability analysis was based on the reviewer's professional judgment and on an assessment of the criteria as listed in the QAPP.

#### **QA/QC CRITERIA**

The following QA/QC criteria were reviewed for asbestos identification methods via PLM:

- Blank Analysis
- Intra-analyst reanalysis
- Inter-analyst reanalysis
- Inter-laboratory quality assurance
- Reference Sample Analysis
- Replicate Analysis
- Sample Receipt
- Point Counting Results (where applicable)
- Microscope Alignment
- Refractive Index Liquid Calibration

The following QA/QC criteria were reviewed for asbestos identification methods via TEM:

- Blank Analysis
- Intra-analyst reanalysis
- Inter-analyst reanalysis
- Interlaboratory quality assurance
- Reference Sample Analysis
- Magnification Scale
- Working Magnification
- Camera Constant
- Beam Dose
- Beam Spot Size
- K factors
- Energy Calibration Check
- Resolution
- Sensitivity
- Grid Opening Calibrations
- Low Temperature Asher Gravimetry Loss % over time

The items listed above were in compliance with project-specific QAPP criteria and protocols <u>with exceptions discussed in the text below</u>. The data have been verified according to the procedures outlined above and qualified accordingly.

#### **GENERAL NOTES:**

#### **BLANKS**

No field blanks were required for bulk analysis, per the method. Daily method blanks for bulk analysis were conducted as required for the method and were all non-detect. For the air samples, the laboratory stated in its report that no field blanks were included for analysis. In fact, two field blanks per sample delivery group (SDG) were included blindly, and were designated as the sample 14 and 15 of each SDG. In addition, the laboratory provided two laboratory blanks for each SDG. No asbestos structures were detected in any field or laboratory blank sample.

#### SAMPLE LOG/CHAIN-OF-CUSTODY

It was noted that the sampling times were incorrectly entered in the Sample Log for SDG 617132. Email correspondence with L&R clarified that the sampling time and the volume were correct and override the sampling start and end times. The original report for 617132 was reissued with corrected sample volumes. Similarly, the sample times were also entered incorrectly for sample 7042329 in SDG 617346, and the lab issued a revised report with corrected sample volume for this sample.

#### SAMPLE REPLICATES

For air samples, the laboratory performed two sample replicates per SDG. No asbestos structures were detected in the primary/replicate sample pairs, so no replicate evaluation was required.

#### SAMPLE QC

For sample 7042317, (03 from SDG 617346), secondary (inter-analyst) reanalysis was conducted, and the reported result was "ND" for any asbestos structures. However, the initial analyst reported one asbestos structure, a fiber (chrysotile), for the sample. As stated in the QAPP, when less than 5 structures are reported for a sample, the QC acceptance limit is ±1 structure; outside this limit, corrective action is required by the laboratory. The EPA TEM Data Validation Guidelines indicate that for detections of less than 10 structures, the results should be identical between the primary analyst and the interanalyst reanalysis. Using professional judgment, and per the standard set forth in the EPA TEM Data Validation Guidelines, a "J" qualifier was applied to the detected result and a "UJ" qualifier to the non-detect result. The most conservative result should be reported for the sample.

#### RISK EVALUATION, AIR SAMPLES

It should be noted that for risk purposes, the units of concentration employed in the current EPA approach for estimating cancer risks are fibers per cubic centimeter (f/cc) as measured by phase contrast microscopy or PCM-equivalent (PCMe) concentrations measured using TEM. The EPA residential risk level of 1 x10-4 for cancer risk is less than 0.001 f/cc.

Sample LF043-A-18-NE-1, collected on July 29, 2020 along the eastern landfill boundary, was found to contain 1 structure of asbestos (identified as chrysotile) which was a fiber 2 µm in length, and was reported by the laboratory as 0.000293 s/cc. According to the Method ISO10312:2019, a PCMe fiber is defined as "any particle with parallel or stepped sides, with an aspect ratio of 3:1 or

greater, longer than 5  $\mu$ m, and which has a diameter between 0.2  $\mu$ m and 3.0  $\mu$ m. For chrysotile, PCMe fibers will always be bundles." Therefore, the corresponding result would be ND for PCMe fibers, and would be reported as < 0.000293 f/cc.

No other asbestos structures were detected in any air samples.

#### DATA USABILITY RESULTS

For each analysis performed, the following data parameters were assessed:

- laboratory analytical precision,
- accuracy,
- representativeness,
- completeness, and
- comparability (PARCC).

Data qualifier results from this review are summarized in Table 2.

#### **ASBESTOS (BULK)**

Based on the evaluation of all information in the analytical data groups, the results for the bulk samples are usable without qualification. Using the verification approach as presented above, the results for all above samples are 100% usable.

### **ASBESTOS (AIR)**

Based on the evaluation of all information in the analytical data groups, the results for the air samples are usable with qualification, as explained in the Sample QC section and summarized in Table 2. Using the verification approach as presented above, the results for all above samples are 100% usable.

All data in Jobs #614712, #617132, 617346, and 617671 are valid and usable with qualifications as noted in the data review.

## TABLE 2 SUMMARY OF QUALIFIED DATA MOUNTAIN HOME AFB ASBESTOS SAMPLING

Sample ID	Lab Sample ID	Analyte	Lab Flag	Validation Flag*	Reason
317346-03	7042317	All asbestos structures	None	J/UJ	Primary analysis 1 asbestos structure; Secondary interanalyst reanalysis ND

<sup>\*</sup>Data Usability Qualifier based on project QAPP data validation and data usability considerations.

### **DATA USABILITY SUMMARY**

All data in Jobs #614712, 617132, 617346, and 617671 are valid and usable with qualifications as noted in the data review.

Signed: Concordia Van Hoesel Date: 9/16/2020

#### **ATTACHMENTS**

- Chain of Custody
- Laboratory's Case Narrative
- Qualified final data verification results on annotated Lab Sheet 2s



www.iatl.com

August 28, 2020

THE L & R GROUP – TECHNICAL SERVICES 680 South Progress Avenue 2A Meridian, ID 83642 Tel | 208 813 7700

**ATTENTION**: Laurie Kuther, Project Manager

**REFERENCE:** Mountain Home AFB, LRG Project No. 200050T and 190075T,

iATL Batches 617132, 617346, 617671, 614712

Laurie:

It was a pleasure to assist L and R in its recent project. Though we continue to be challenged in the laboratory by some of the logistical restrictions (ex. split shifts and physical barriers) introduced by C19, we were happy to be able to contribute to your project.

All data reports and Certificates of Analysis were filed in accordance with the batch ID and turn around specified. The client portal on our iTRACC LIMS always has archived reports in case you need to go back and download any specific test report.

This report details the items outlined in the QAPP for laboratory quality assurance. The attached reanalysis data, copies of logs, calibration data, and related items to satisfy the QAPP are also listed in tabular/checklist form. A Statement of Completion is also listed for attestation of compliance.

Let me know if you or your USACE team has any questions. We look forward to working with you in the future.

Regards,

Frank Ehrenfeld III

Fre Snamed

Laboratory Director – Vice President iATL

## Contents:

Ehrenfeld Coverletter	p1
Contents	p2
Compliance Attestation	р3
QAPP Worksheet #28 – QA Samples Table (Bulk)	p4
Bulk QA Data Checklist and Narrative	p5
QAPP Worksheet #28 – QA Samples Table (Air)	р6
Air QA Data Checklist and Narrative	р7
QAPP Worksheet #24 – Analytical Instrument Calibration	р8
Calibration Checklist and Narrative	р9
Appendix: Copies of Data	p10

The Statement of Compliance relates to the analytical work completed by iATL in June, July, and August 2020 for the Mountain Home AFB, LRG Project No. 200050T and 190075T (iATL Batches 617132, 617346, 617671, 614712). Specifically, all sample receipt and handling requirements, archiving and storage, sample preparation and processing, sample analysis and data reporting, and subsequent Quality Assurance items have been completed in accordance with the specified analytical methods, our iATL SOPs, and the Quality Assurance Project Plan (QAPP) for this project. Related documentation of quality system compliance under our ISO17025:2017 accreditations (ex. AIHA LAP 100188, NIST NVLAP 101165, ELAP 11021) have been previously submitted.

Track Throughold III

Frank Ehrenfeld III Laboratory Director – Vice President iATL August 28, 2020

Cc:

Tiffany Lowe Quality Manager

Whitney Champion Operations Manager

Laura D'Ornellas Sample Manager

Benjamin Reich TEM Sample Preparation

Mark Stewart TEM Group Leader, Senior Analyst

Craig A. Liska TEM Senior Analyst

Sarah Lipiecki PLM Senior Analyst

Linda Price PLM Senior Analyst

Will Riffle PLM Senior Analyst

### QAPP Worksheet #28 - QC Samples Table (Bulk)

Matrix		Bulk							
Analytical Group		PLM							
Analytical Method/SOP Referencel		USEPA 600/R-93/116/PLM .007							
QC Sample	*   Frequency/Number  Of Accentance   Corrective Action		Corrective Action	Person(s) Responsible for Corrective Action2	Measurement Performance Criteria				
Method Blank	Daily use of non- ACM material	<0.25%	Determine the source of the contamination.	Analyst	Same as Method/SOP QC Acceptance Limits				
Intra- analyst reanalysis	2% of samples analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Inter- analyst Quality assurance	7% of sample analyzed per day	R-value -1/+1 Exceptions at low level quant	Second analyst performs another reanalysis, if need a tertiary analyst follows. Initial analyst revisits/reanalyzes sample.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Inter- laboratory Quality assurance	Quarterly	2-3x standard deviation	Inter Laboratory round robin and/or Proficiency Test participation.	Analyst QA Manager	Same as Method/SOP QC Acceptance Limits				
Reference sample	Daily for alignment, qual, and quant	Must meet established acceptance criteria	Reanalyze is misclassification.	Analyst	Same as Method/SOP QC Acceptance Limits				

#### Bulk Data Checklist and Narrative:

iATL received 50 bulk building material samples from LRG308 on June 10, 2020. Laura D'Ornellas, iATL Sample Manager inspected and logged in the samples as iATL Batch 614712. These samples were noted as received shipped and received in acceptable condition meeting USEPA 600 R93-116 requirements for sample volume and shipping integrity. The shipment contained an accurate chain of custody listing Project 190075T as Project Name MHAFB LF043. A Sample Log noting each sample's unique identification and description was in order. iATL unique sample identification numbers were attached to the samples and those numbers stamped on the Log.

Initial Sample Analysis, Sarah Lipiecki, June 12 and June 16, 2020 Secondary QA Sample Analysis, Linda Price, June 16, 2020 Secondary QA Sample Analysis, Will Riffle, August 25, 2020

#### Table #28 Bulk PLM

Sample	Analyst	Analyst	Analyst	QA Result
	1° (SL)	2° (LP)	2° (CR)	(+/-)
7020394	ND	NA	ND	+
7020398	ND	NA	ND	+
7020408	ND	NA	ND	+
7020401	ND	NA	ND	+
7020404	20	NA	20	+
7020426	ND	ND	NA	+
7020423	30	12	NA	+
7020413	ND	ND	NA	+
7020431	40	25	NA	+
7020440	ND	ND	NA	+

Results by USEPA 600 R93-116 in CVAE (%) or PC (%) Samples randomly selected for Intra/InterAnalyst QA ReAnalysis R-value Acceptance +, Rejection -

#### QA Checklist:

Analyst Logbooks	Completed/Attached
Method Blank	Completed/Attached
Intra and Inter Analyst Reanalysis Data (Table #28 Bulk – above)	Completed/Attached
Daily Reference Material Analysis	Completed/Attached
Daily Microscope Calibration/Alignment	Completed/Attached
Refractive Index Oil 1.550, 1.605, 1.680 -Calibrations Logs	Completed/Attached
Analyst InterLaboratory and/or PT Proficiency	Completed/Attached

## QAPP Worksheet #28 - QC Samples Table (Air)

Matrix		Air						
Analytical Group		Asbestos						
Analytical Method/SOP Referencel		ISO 10312:2019/TEM .002						
QC Sample Frequency/Number		Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action2	Project- Specific Measurement Performance Criteria			
Method Blank	5% of submitted samples	1 structure	Determine the source of the contamination. Clean equipment: prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits			
Field blank	10% of submitted samples	1 structure	Determine the source of the contamination. Clean equipment; prepare and analyze new blank.	Analyst	Same as Method/SOP QC acceptance limits			
Intra-analyst reanalysis	2% of samples analyzed per day	<5structures ± 1s; 5-20structures ± 2s; >20structures ± 3s or 3StDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Inter-analyst Quality assurance	7% of sample analyzed per day	<5structures ± 15; 5-20structures ± 25; >20structures ± 3s or 38xDev	Reanalyze the sample. Second analyst performs another reanalysis.	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Inter- laboratory Quality assurance	Quarterly	2x standard deviation	Inter Laboratory Verification – Round Robin or Proficiency Test samples	Analyst QA Manager	Same as Method/SOP QC acceptance limits			
Reference sample	EDS Calibrations See Table WS24	Must meet established acceptance criteria	Reanalyze after service call and within acceptable limits	Analyst	Same as Method/SOP QC acceptance limits			

#### Air Data Checklist and Narrative:

iATL received 45 air monitoring cassettes samples from LRG308 in three separate shipments on July 27, July 30, and August 6, 2020. Laura D'Ornellas, iATL Sample Manager inspected and logged in the samples as iATL Batches 617132, 617346, 617671. These samples were noted as received shipped and received in acceptable condition meeting ISO10312 requirements for shipping integrity. The shipment contained an accurate chain of custody listing Project 200050T as Project Name Mountain Home AFB. A Sample Log noting each sample's unique identification and description was in order (though collected sample volumes were checked and recalculated). iATL unique sample identification numbers were attached to the samples and those numbers stamped on the Log. No field blanks were included. iATL provided Laboratory Blanks for each batch. Required QA reanalysis and instrument calibrations were completed.

Sample Preparation, Ben Reich July 28, August 3, and August 6, 2020 Initial Sample Analysis, Mark Stewart, July 28, 29, 30, August 4, 5, 6, and August Secondary QA Sample Analysis, Craig Liska, July 28, 29, August 7 and 8, 2020

Table #28 Air TEM

Sample	Analyst 1° (MS)	Analyst 2	Analyst 2 °	Lab	QA Result
		° (MS)	(CL)	Blank <sup>(1)</sup>	(+/-)
617132 LB1	ND	NA	NA	ND	+
617132 LB2	ND	NA	NA	ND	+
7040575 Rep	ND	ND	NA	NA	+
7040585 Rep	ND	ND	NA	NA	+
7040574 Inter	ND	NA	ND	NA	+
7040584 Inter	ND	NA	ND	NA	+
617346 LB1	ND	NA	NA	ND	+
617346 LB2	ND	NA	NA	ND	+
7042315 Rep	ND	ND	NA	NA	+
7042326 Rep	ND	ND	NA	NA	+
617671 LB1	ND	NA	NA	ND	+
617671 LB2	ND	NA	NA	ND	+
7045849 Rep	ND	ND	NA	NA	+
7045859 Rep	ND	ND	NA	NA	+
7045850 Inter	ND	NA	ND	NA	+
7045860 Inter	ND	NA	ND	NA	+
7042317 Inter	1 chrys fiber at DL	NA	ND,	NA	+
	0.00029 s/cc		<0.00029 s/cc		
7042325 Inter	ND	NA	ND	NA	+

Results by ISO 10312 in s/cc, ND = None Detected, NA = Not Applicable 1, Fields Blanks not submitted, Lab Blanks None Detected at <7.7 s/mm<sup>2</sup> Samples randomly selected for Intra/InterAnalyst QA ReAnalysis R-value Acceptance +, Rejection -

#### QA Checklist:

Analyst Logbooks	Completed/Attached
Method Blank / Laboratory Blanks	Completed/Attached
Intra and Inter Analyst Reanalysis Data (Table #28 Air – above)	Completed/Attached
Routine Calibrations [EDS, SAED, Magnification]	Completed/Attached
Daily Microscope Calibration/Alignment	Completed/Attached
Analyst InterLaboratory and/or PT Proficiency	Completed/Attached

QAPP Worksheet #24 - Analytical Instrument Calibration

Instrument	Calibration Item	Calibration Range	Frequency	Acceptance Criteria <sup>2</sup>	Corrective Action <sup>3</sup>	Title/position responsible for CA	Applicable SOP for calibration
TEMI	Magnification Scale	0-40,000x	Annually	10%	Service Call	Quality Manager	TEM.002
TEM I	Working Magnification	20,000x	Quarterly	10%	Service Call	Quality Manager	TEM.002
TEMI	Camera Constant (SAED)	mm-nm	Monthly	10%	Service Call	Quality Manager	TEM.002
TEM I	Beam Dose (SAED)	Seconds	Monthly	30-60	Service Call	Quality Manager	TEM.002
TEM I	Beam Spot Size	250nm	Monthly	15%	Service Call	Quality Manager	TEM.002
EDS!	KFactors	1Kev - 10Kev	Annually	Sliding energy scale	Service Call	Quality Manager	TEM.002
EDS I	Energy Calibration Check	1KeV - 10KeV	Weekly	Al Ka, Cu Ka	Service Call	Quality Manager	TEM.002
EDS I	Resolution	Mn Ka	Monthly	75KeV FWHM	Service Call	Quality Manager	TEM.002
EDS I	Sensitivity	Na Ka	Monthly	3x SD	Service Call	Quality Manager	TEM.002
PLM	Refractive Index Oil	1.550-1.700	Receipt of new batch & quarterly	0.004	Reject Product	Quality Manager	PLM .007
PLM	Alignment	stage objectives optic axis polarizers	Daily check	RI colors and Ext Angle of SRM	Service Call	Analyst	PLM .007
Analytical Balance	Mass	NIST Class S-1 weights Troemner Certification	Daily AutoCal prior to use	0.002 g	Monthly checks with weights. Sartorius Certification.	Analyst/Quality Manager	PLM .007
Muffle Furnace	Temperature	485oC	Monthly	5% range	Service Call	Quality Manager	PLM .007
NIST Traceable Digital Thermometers	Temperature	-1 - 101oC	Daily check	+/- 1oC	Replacement	Quality Manager	PLM .007
Grid Opening Calibrations	Area	0.112- 0.118mm	Receipt of batch	0.0130- 0.0134mm2	Revise calculations	Analyst	TEM
Low Temperature Asher (Plasma)	Gravimetry Loss % over time setting	5-15%	Monthly	5-15%	Adjust / recalibrate	Analyst	TEM

#### Instrument/Facilities/Equipment Calibrations

Daily instrument and prep/processing equipment logs are available and attached. Calibrations include units and acceptability ranges. All daily routine alignment, EDS energy scale, etc. noted in attached logs. Since no indirect preparations for bulk samples (ex. ELAP 198.4) or air samples (ex. ISO13794) were needed, the gravimetric calibrations of muffle furnace and analytical balance are not included. The annual k-factor study was also not included, especially since no asbestos minerals were detected.

Table #24 Analytical Instrument Calibrations

Instrument	Calibration	Range	Frequency	Corrective	QA Result
Equipment	Item	Studied	Check	Action	(+/-)
TEM	Mag Scale	0-40kX	Annually	NA	+
TEM	Analysis Mag	20kX	Quarterly	NA	+
TEM	Camera Constant	mm-nm	Monthly	NA	+
TEM	Beam Dose	Seconds	Monthly	NA	+
TEM	Spot Size	250nm	Monthly	NA	+
EDS	Energy Scale	1-10KeV	Weekly	NA	+
EDS	Resolution	Mn Ka	Monthly	NA	+
EDS	Sensitivity	Na Ka	Monthly	NA	+
PLM	RI Oil	See p 5	Product	NA	+
PLM	Alignment	Log	Daily	NA	+
TEM	Grid Opening	Log	Product	NA	+
TEM	LTA/PEA	Log	Monthly	NA	+

Product = calibrated upon receipt of product from vendor Acceptance +, Rejection -, by 40CFR763 Quality Assurance Calibration Specifications

#### QA Checklist:

All relevant log book entries and individual instrument calibrations noted above attached.



9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

### BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308	Batch Number:	614712
Customer:	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID	Project: Project Number: TAT:	MHAFB LF043 190075T 5 Day
Customer Rep:	Shirley Clark		
	Shirley Clark  Analysis: PLM	Date/Time Recd:	06/10/2020 12:28 PM
# of Samples:	Analysis: PLM	Date/Time Due:	06/17/2020 5:00 PM
Client Notes:	N/A		
Lab Technician No	tes: N/A		
Accounting Notes:	N/A		
Report Processing I	Notes: N/A		
bagged. Air Casset contaminal Samples re Samples of Paperwork No / Incon No / Incon Sample co No Turnar PCM Re-p portion of	ere not received in a sealed container. Bulk samples not double tes received open in bagsample integrity compromised, possible tion.  secived wet. secived covered with dustpossible cross contamination. Intainers damaged, contents spilledpossible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination. Intereceived in the same bag as samples possible cross contamination	Analysis Ad	cknowledgement
Minimum Other: Batch En Wrong Cl Wrong P Wrong Tu Wrong Du Wrong D Wrong A	shipping requirements not attained. See attached Carrier Air Bill.  Fror: ient ID Listed ient Location Listed roject ID Listed imAround Time Listed	Login Error:  Sample Log Stample Containers  Duplicate / Extra S  Lab Technician B	s Mislabeled Samples Not Stamped

#### Login

From:

Shirley Clark

Sent:

Tuesday, June 9, 2020 4:32 PM

To:

**PLM Requests** 

Subject:

Client Communication - The L & R Group - LRG308

Client Communication			
Staff Member	Shirley		
Client Code	LRG308		
Client Name	The L & R Group		
Contact	Laurie Kuther		
Email	amianthus@aol.com		
Phone	208-813-6160		
Sample Type	PLM		
# of Samples	~ 50		
Date Samples Arriving	6/10/20		
Time Samples Arriving	АМ		
Method of Arrival	Overnight Delivery		
Date/Time Results Requested	6/17/20		
Project Name			
Client Request/ Expectations	Email to Laurie		

×	***************************************
	!

# Shirley Clark

Senior Accounts Manager International Asbestos Testing Laboratories, Inc. 9000 Commerce Parkway, Suite B Mt. Laurel, NJ 08054 P: 856 231-9449 ext. 1002

www.iatl.com

### Re: L and R Group, FYI

#### Frank Ehrenfeld < frankehrenfeld@iatl.com>

Fri 5/22/2020 10:11 AM

Cc: Eric Snyder <ericsnyder@iatl.com>; Shirley Clark <shirleyclark@iatl.com>; Whitney Champion <wchampion@iatl.com>; Sarah Lipiecki <SLipiecki@iatl.com>; Mark Stewart <mstewart@iatl.com>; Patrick Carr <PCarr@iatl.com>

Login:

When package arrives from L&R (might have paperwork also from FPM Remidiation and/or US Army Corp Engineers with Project [USACE MHAFB LF043, UFP-QAPP]). Please carefully and cleanly stamp paperwork as Rec'd with clear rec'd initials and time. This is part of QAPP project and we will be under strict protocols: Please photograph image of package before opening, after opening with contents, and do not log in until I can see image please.

(1) Should be (~50) 200-500mL soil/building debris samples for PLM. Please assign to one analyst ONLY for duration of these samples (might be one more submittal in a few weeks. I recommend SL. (2) 10-13 PCM/TEM cassettes with high volumes (~3-5000L) and blank(s). Hold until I can see paperwork and samples. When logging in do not hide customer ID labels with iATL labels. Note filter color, condition, and loading before prep. Samples are to be completed by ISO10312 with some extra USEPA-like requirements. ONLY one TEM prepper (BR) and one TEM instrument (TEM I or II) and one analyst (MS or PC).

Let me know arrival and condition please.

Frank Ehrenfeld III
Laboratory Director – Vice President
Chair ASTM D2207
9000 Commerce Parkway,
Suite B
Mt. Laurel, NJ 08054
856 231-9449 P
(b) (6) C



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From: Eric Snyder <ericsnyder@iatl.com> Sent: Friday, May 22, 2020 9:58 AM To: Shirley Clark <shirleyclark@iatl.com> Cc: Frank Ehrenfeld < frankehrenfeld@iatl.com>

Subject: L and R Group, FYI

Package set for FedEx delivery this morning from L&R



Eric M. Snyder

President

International Asbestos Testing Laboratories, Inc.

9000 Commerce Parkway, Suite B

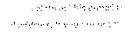
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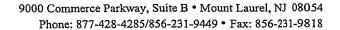


9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054 Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

# **Chain of Custody**

-Bulk Asbestos -

	Duik	ASUCSIUS —		
Contact Informa	tion_			
Client Company:	The L&R Group	Project Number:	190075T	
Office Address:	680 S. Progress Ave.	Project Name:	MHAFB LF043	
City, State, Zip:	Meridian, ID 83642	Primary Contact:	Laurie Kuther/L&R	
Fax Number:		Office Phone:	208-813-7700	
Email Address:	laurie@thelandrgroup.com	Cell Phone:		
PLM: Bulk Asbe PLM: Bulk Asbe PLM: Bulk Asbe PLM: Bulk Asbe	stos Building Materials EPA 600 R-93/stos Building Materials EPA 600 M-4/8 stos Building Materials NIOSH 9002, 1 stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA stos Building Materials NYSDOH-ELA	2-020, 1982 985 LP 198.1, 2002 LP 198.6, 2010		
□ PLM: Point Counting □ PC: via ELAP 198.1 □ PC: 400 Points □ PC: 800 Points * □ PC: 1600 Points * □ PLM: Instructions for Multi-Layered Samples □ Analyze and Report All Separable Layers per EPA 600 □ Report Composite for Drywall Systems per NESHAP □ Report All Layers and Composite Where Applicable □ Only Analyze and Report Specifically Noted Layer  Special Instructions: □ PLM: Analyze Until Positive (Positive Stop) □ AUP: by Homogenous Area as Noted □ AUP: by Material Type as Noted □ PLM: NOB via 198.6 □ PLM: Friable via EPA 600 2.3 □ If <1% by PLM, to TEM via 198.4 * □ If <1% by PLM, Hold for Instructions □ PLM: Non-Building Material **** □ PLM: Non-Building Material **** □ CARB 435				
** Additional charge and turnaround may be required ** Alternative Method (ex: EPA 600/R-04/004) may be recommended by Laboratory				
Turnaround Time  Preliminary Results Requested Date:  Specific date / time  10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**  * End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***  Chain of Custody				
	/Organization): Laurig Kuther/L&R ATL): // / / / / / / / / / / / / / / / / /	Date: 6-8-20 Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date:	Time: 1400	



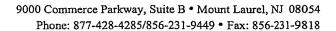


-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043

Sampling Date/Time: 6/4/2020-6/5/2020

Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes
LF043-B-01-NE-1	7020393	Tile/grout	
LF043-B-02-NE-1	7020394	Black rubber like material	
LF043-B-03-NE-1	7020395	Fiberboard	
LF043-B-04-NE-1	<b>702039</b> 6	Insulation	
LF043-B-05-NE-1	7020397	Black rubber/plastic pipe	
LF043-B-06-NE-1	7020398	Foam	
LF043-B-07-NE-1	<b>70</b> 20 <b>39</b> 9	Fiberboard	
LF043-B-08-NE-1	7020400	Tile	
LF043-B-09-NE-1	7020401	Plastic pipe	
LF043-B-10-NE-1	7020402	Foam	
LF043-B-11-NE-1	7020403	Plastic pipe	
LF043-B-12-NE-1	<b>70</b> 20 <b>4</b> 04	Unknown Transite-like	
LF043-B-13-NE-1	7020405	Unknown plaster-like	
LF043-B-14-NE-1	<b>70</b> 20 <b>4</b> 0G	Asphalt	
LF043-B-15-NE-1	7020407	Tar coating on metal pipe	
LF043-B-16-NE-1	7020403	Black plastic	





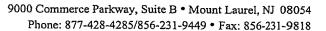
-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/202	0

	Bulk Asbestos Sample Log				
Client Sample #	iATL#	Location/Description Painted fiberboard	Notes		
LF043-B-18-NE-1	7020409 7020410	foam with aluminum insulation			
LF043-B-19-NE-1	7020411	mastic on brick			
LF043-B-20-NE-1	7020412	ceramic tile			
LF043-B-21-NW-2	7020413	plastic			
LF043-B-22-NW-2	7020414	Roofing shingle			
LF043-B-23-NW-2	7020415	fibrous material with mastic			
LF043-B-24-NW-2	7020410	fibrous plastic			
LF043-B-25-NW-2	7020417	unknown, tile like			
LF043-B-26-NW-2	<b>702041</b> 8	PVC pipe	:		
LF043-B-27-NW-2	7020419	Roofing shingle			
LF043-B-28-NW-2	7020420	Transite pipe			
LF043-B-29-NW-2	7020421	Transite pipe			
LF043-B-30-NW-2	7020422	Foam			
LF043-B-31-NW-2	7020423	unknown fibrous material			
LF043-B-32-NW-2	7020424	foam insulation			





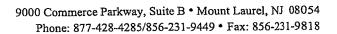




-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/2020	0

Bulk Asbestos Sample Log				
Client Sample #	iATL#	Location/Description	Notes	
LF043-B-33-NW-2	7020425	plastic tubing		
LF043-B-34-NW-2	7020428	plastic		
LF043-B-35-NW-2	7020427	tile with mastic		
LF043-B-36-NW-2	7020428	Transite pipe		
LF043-B-37-NW-2	7020429	Plastic tubing brown		
LF043-B-38-NW-2	7023430	Transite pipe		
LF043-B-39-NW-2	7020431	Transite pipe		
LF043-B-40-NW-2	7020432	Mesh tape		
LF043-B-41-SE-2	7020433	blue tile		
LF043-B-42-SE-2	7020434	Transite pipe		
LF043-B-43-SE-2	7020435	laminate		
LF043-B-44-SE-2	7020436	unknown pipe wrap		
LF043-B-45-SE-2	7020437	Transite and brick		
LF043-B-46-SW-2	7020438	Insulation		
LF043-B-47-SW-2	7020439	red brick		
LF043-B-48-SW-2	7020440	cement like material		





-Bulk Asbestos -

Client: The L&R Group	Project: MHAFB LF043
Sampling Date/Time: 6/4/2020-6/5/202	0

Bulk Asbestos Sample Log			
Client Sample #	iATL#	Location/Description	Notes
LF043-B-49-SW-2	7020441	blue tile	
LF043-B-50-SW-2	7020442	unknown, ceramic like	

2-6

Batch # 614712 -

Analyst: Sarah Lipiecki Date: 6/12/2020 Client ID: L&R group Station ID: 11

Reviewed By:\_\_\_\_\_

	ATL# Client#	Color Material Type	% Asb	Asb	% NAsl	NAsb	% NF	Notes Optical Properties
	020393 E043-B-01-N	Off-White Ceramic		Nor <b>∨</b>		Nor <b>∨</b>	100	[0 4 1.550        Yes 0
70	)20393(L2)	Grey Grout		Nor <b>∨</b>	3	Cell <b>∨</b>	97	0 4 1.550        Yes 0          und
	020394 E043-B-02-N	Black Fibrous		Nor <b>∨</b>	7	Cell <b>∨</b>	93	0 4 1.550        Yes 0          und
	)20395 E043-B-03-N	Brown Fiberboard		Nor <b>→</b>	80	Cell <b>∨</b>	20	0 4 1.550       Yes 0          und
	020396 E043-B-04-N	Silver/Tan Wrap / Insulation		Nor <b>✓</b>	2	Cell <b>∨</b>	98	LNS   0 4 1.550        No 0
	)20397 E043-B-05-N	Black Pipe Material		Nor <b>✓</b>		Nor <b>✓</b>	100	)   0 4 1.550       Yes 0  
	)20398 E043-B-06-N	Yellow Foam		Nor <b>✓</b>		Nor <b>→</b>	100	)   0 4 1.550        Yes 0  
	)20399 E043-B-07-N	Brown Fiberboard		Nor <b>∨</b>	80	Cell <b>∨</b>	20	0 4 1.550       Yes 0

7020400 White Nor **→** Nor **→** 100

LE043-B-08-N[Floor Tile ||0|4|1.550|||||||||Yes|0|

7020401 White Nor **∨** Nor **∨** 100

LE043-B-09-NfPipe Material ||0|4|1.550||||||||Yes|0|

7020402 Yellow Nor ➤ Nor ➤ 100

LE043-B-10-N[Foam ||0|4|1.550||||||||Yes|0|

7020403 White Nor ✓ Nor ✓ 100

LE043-B-11-NEPipe Material ||0|4|1.550||||||||Yes|0|

1111111111

7020404 Grey 20 Chr ✓ 8 Cell ✓ 72

LE043-B-12-N[Cement Product ||0|4|1.550|K|N|L|+|0|1.547|1.555|Yes|0|

7020405 White Nor **∨** Nor **∨** 100

LE043-B-13-N[Stucco ||0|4|1.550||||||||Yes|0|

11111111111

7020406 Black Nor ➤ 5 Cell ➤ 95

LE043-B-14-N[Asphalt ||0|4|1.550||||||||Yes|0|

[[[][]]und[[

7020407 Black Nor ➤ Nor ➤ 100

LE043-B-15-N[Tar ||0|4|1.550||||||||Yes|0|

7020408 Black Nor ➤ Nor ➤ 100

LE043-B-16-N[Non-Fibrous ||0|4|1.550|||||||Yes|0|

**Analyst Batch Comments:** 

END OF SAMPLE LOG

Batch # 614712 -

Analyst: Sarah Lipiecki Date: 6/16/2020 Client ID: I&r group Station ID: 11

Reviewed By:\_\_\_\_\_

iATL# Client#	Color Material Type	% Asb	Asb	% NAst	NAsb	% NF	Notes Optical Properties
7020409 LE043-B-17-N	White µFiberboard		Nor <b>∨</b>	90	Cell <b>∨</b>	10	0 4 1.550        Yes 0         und
7020410 LE043-B-18-N	Silver ĮįWrap		Nor <b>∨</b>	10	Cell <b>∨</b>	90	0 4 1.550        Yes 0         und
7020410(L2)	Yellow Foam		Nor <b>∨</b>		Nor <b>∨</b>	100	0 4 1.550        Yes 0
7020411 LE043-B-19-N	Black IfMastic		Nor <b>∨</b>		Nor <b>∨</b>	100	0 4 1.550        Yes 0  
7020411(L2)	Off-White Mortar		Nor <b>∨</b>		Nor <b>∨</b>	100	)   0 4 1.550        Yes 0
7020412 LE043-B-20-N	Off-White ผูเCeramic		Nor <b>∨</b>		Nor <b>→</b>	100	)   0 4 1.550        Yes 0  
7020413 LE043-B-21-N	Off-White มู\Non-Fibrous		Nor <b>✓</b>		Nor <b>✓</b>	100	)   0 4 1.550       Yes 0  
7020414 LE043-B-22-N	Black มุ\Shingle		Nor <b>∨</b>	20	Fibr <b>∨</b>	80	0 4 1.550       Yes 0
7020415 LE043-B-23-N	Black NFibrous		Nor <b>✓</b>	80	Cell <b>∨</b>	20	0 4 1.550       Yes 0         und

7020415(L2)	Black Mastic		Nor <b>∨</b>		Nor 🕶	100   0 4 1.550        Yes 0  
7020416 LE043-B-24-N	Green I\FRP Sheeting		Nor <b>∨</b>	30	Fibr <b>✓</b>	70   0 4 1.550        Yes 0          so
7020416(L2)	Grey Debris		Nor <b>→</b>	20	Cell <b>∨</b>	80   0 4 1.550        Yes 0          und
7020417 LE043-B-25-N	Tan/White I\Non-Fibrous		Nor <b>→</b>		Nor <b>∨</b>	100   0 4 1.550        Yes 0
7020417(L2)	Black Non-Fibrous		Nor <b>→</b>		Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020418 LE043-B-26-N	White կ∖Pipe Material		Nor 🗸		Nor <b>✓</b>	100   0 4 1.550        Yes 0  
7020418(L2)	Brown Debris		Nor <b>→</b>	5	Cell <b>✓</b>	95   0 4 1.550        Yes 0          und
7020419 LE043-B-27-N	Black µShingle		Nor <b>→</b>	20	Fibr <b>∨</b>	80   0 4 1.550        Yes 0          iso
7020420 LE043-B-28-N	Grey บุ\Cement Product	20 10 10	Chrysc Amosite Crocidc		Nor <b>∨</b>	60 Second Asb Type Opt Prop =     1.680 s n m + 0 1.681 1.690   0 4 1.550 K N L + 0 1.549 1.557 Yes 0        1.680 s n m + 0 1.681 1.690         1.680 s y m - 0 1.680 1.692
7020421 LE043-B-29-N	Grey ง\Cement Product	20 10 10	Chrysc Amosite Crocide		Nor <b>∨</b>	60 Second Asb Type Opt Prop =     1.680 s n m + 0 1.687 1.692    0 4 1.550 K N L + 0 1.546 1.556 Yes 0

7020422 LE043-B-30-N	Blue J\Foam		Nor 🗸	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020422(L2)	Tan Debris		Nor <b>∨</b> 5	Cell <b>∨</b>	95   0 4 1.550        Yes 0           und
7020423 LE043-B-31-N	Grey NFibrous	30	Chr ➤	Nor <b>∨</b>	70   0 4 1.550 K N L + 0 1.547 1.555 Yes 0  
7020424 LE043-B-32-N	White/Silver y∖Insulation		Nor 🗸	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020425 LE043-B-33-N	White y∖Pipe Material		Nor 🕶	Nor <b>→</b>	100   0 4 1.550        Yes 0  
7020426 LE043-B-34-N	Blue ฟูNon-Fibrous		Nor <b>→</b>	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020427 LE043-B-35-N	White บุ\Floor Tile		Nor <b>∨</b>	Nor <b>∨</b>	100   0 4 1.550        Yes 0  
7020427(L2)	Black Mastic	4.9	Chr <b>→</b>	Nor <b>∨</b>	95.1 4 82 0 4 1.550 K N L + 0 1.548 1.557 Yes 0
7020428 LE043-B-36-1	Grey \\Cement Product	20 20	Chrysc Crocidc	Nor <b>✓</b>	60 Second Asb Type Opt Prop =     1.680 s y m - 0 1.681 1.686
					0 4 1.550 K N L + 0 1.546 1.556 Yes 0                   1.680 s y m - 0 1.681 1.686  
7020429 LE043-B-37-I	Brown <sub>N</sub> \Pipe Material		Nor <b>→</b>	Nor <b>∨</b>	100   0 4 1.550        Yes 0  

0/2020		Daton	14/ 12 - Milai	y 3 t. Oc	ilan Lipico	N. Dui	0. d/ 10/2020
7020430	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-38-N	I\Cement Product	20	Crocido				1.680 s y m - 0 1.680 1.688
							0 4 1.550 K N L + 0 1.547 1.556 Yes 0                  1.680 s y m - 0 1.680 1.688  
7020431	Grey	20	Chrysc		Nor <b>✓</b>	60	Second Asb Type Opt Prop =
LE043-B-39-N	NCement Product	20	Crocido				1.680 s y m - 0 1.682 1.690
							0 4 1.550 K N L + 0 1.547 1.557 Yes 0          1.680 s y m - 0 1.682 1.690
7020432	Grey		Nor <b>✓</b>	25	Syn 🗸	75	
LE043-B-40-N	ų∖Tape						0 4 1.550        Yes 0          und
7020432(L2)	Brown		Nor <b>→</b>	15	Cell <b>✓</b>	85	
	Debris						0 4 1.550        Yes 0         und
7020433	Blue	2.4	Chr 🗸		Nor <b>∨</b>	97	€
LE043-B-41-5	SEFloor Tile						4 164 0 4 1.550 K N L + 0 1.547 1.558 Yes 0
7020433(L2)	Brown		Nor <b>✓</b>	10	Cell <b>∨</b>	90	
	Debris						0[4 1.550        Yes 0          und
7020434	Grey	20	Chrysc		Nor 🕶	60	Second Asb Type Opt Prop =
LE043-B-42-9	SECement Product	20	Crocido				1.680 s y m - 0 1.682 1.690
							0 4 1.550 K N L + 0 1.547 1.557 Yes 0
							1.680 s y m - 0 1.682 1.690  
7020435	White		Nor 🗸	85	Cell <b>∨</b>	15	
LE043-B-43-	SELaminate						0 4 1,550        Yes 0         und
7020436	Red/Grey/Brown		Nor <b>→</b>	20	Cell <b>∨</b>	80	
LE043-B-44-	S[Wrap						0 4 1.550        Yes 0         und

6/2020		Batch # 6	14712 - Anal	yst: S	arah Lipied	ki Dat	e: 6/16/2020
7020437	White	20	Chr 🕶		Nor <b>✓</b>	80	
LE043-B-45-S	SECement Product						0 4 1.550 K N L + 0 1.546 1.556 Yes 0  
7020437(L2)	White Brick		Nor <b>→</b>		Nor <b>✓</b>	100	)   0 4 1.550        Yes 0  
7020438 LE043-B-46-8	Brown/Silver Sylnsulation		Nor <b>∨</b>	15	Cell <b>∨</b>	85	0 4 1.550        Yes 0          und
7020439 LE043-B-47-5	Red S\Brick		Nor <b>∨</b>		Nor <b>∨</b>	100	)   0 4 1.550        Yes 0  
7020439(L2)	Brown Debris		Nor <b>∨</b>	10	Cell <b>∨</b>	90	0 4[1.550        Yes 0          und
7020440 LE043-B-48-9	White Sylnsulation		Nor <b>∨</b>	5	Fibr 🗸	95	0 4 1.550        Yes 0          so
7020441 LE043-B-49-	Blue SyCeramic		Nor <b>→</b>		Nor <b>∨</b>	10	0   0 4 1.550        Yes 0  
7020442 LE043-B-50-	White SVCeramic		Nor <b>✓</b>		Nor <b>∨</b>	10	0   0 4 1.550        Yes 0

Analyst Batch Comments: END OF SAMPLE LOG





9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

BATCH / SAMPLE MANAGEMENT REPORT

LRG308		Batch Number:	617132		
			Project: Project Number: TAT:	Mountain Home AFB 200050T 5 Day	
Shirley Clark				·	
15	Analysis: TEM - I	SO 10312	Date/Time Recd: Date/Time Due:	07/27/2020 10:59 AM 08/03/2020 5:00 PM	
N/A					
es: N/A Box	recieved in good world	ion, completely	Scaled L		
N/A					
lotes: N/A					
	, o@ <b>3</b>				
Error:			Analysis Ac	knowledgement	
re not received i	n a sealed container. Bulk sampl	es not double	TEM Prep		
	in bagsample integrity compro	omised, possible	TEM - ISO 103	312	
	dela dana anno 11.1.				
received in the sa	ame bag as samples possible con				
tainer IDs do not	match the client's sample log.				
	SH 7402. Cassettes previously o		1	-// 6 .	
t submitted as re		al method. Lab	slank prepared w	ith samples. Logatelin 6	
		Carrier Air Bill.	BOX# 207	I in Gridslats 1.1 & 1.	
				0,00	
			<ul> <li>Sample Log Stampe</li> </ul>		
	ed	***************************************	- Sample Containers		
	isted		<del>-</del>	•	
			<ul> <li>Lab Technician Ber</li> </ul>	nch Sheet Error	
	The L & R Gr 680 South Pro Meridian ID Shirley Clark  15  N/A  es: N/A  N/A  N/A  lotes: N/A  Error:  re not received in the series damaged received in the series damaged received in the series collete Sample Logatiner IDs do not und Time indicate pfor TEM NIO liter removed. It submitted as rehipping requirem  or:  nt ID Listed int Location Listed ject ID Listed int Location Listed ject ID Listed int Location Time Listed int Location Time Listed int Joate Listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretation of the listed interpretatio	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID Shirley Clark  15  Analysis: TEM - I  N/A  es: N/A	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID Shirley Clark  15  Analysis: TEM - ISO 10312  N/A  es: N/A Box YECGOOD IN Good Condition, Completely N/A  lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID Shirley Clark  15  Analysis: TEM - ISO 10312  Date/Time Recd: Date/Time Due:  N/A  es: N/A Box received in good condition, completing search N/A  lotes: N/A  lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  Lotes: N/A  L	

#### Login

From:

Frank Ehrenfeld

Sent:

Tuesday, July 21, 2020 2:16 PM

To:

Login

Subject:

FW: MHAFB TEM samples

Hold upon arrival for inspection and documentation. Thanks  $\Rightarrow$  opposed by FE 7/27

From: Laurie Kuther < laurie@lrenviro.com>

Sent: Tuesday, July 21, 2020 2:08 PM

To: Shirley Clark <shirleyclark@iatl.com>; Frank Ehrenfeld <frankehrenfeld@iatl.com>

Subject: MHAFB TEM samples

Hi there! They have started the sample collection and will be picking the samples up tomorrow. I am thinking that you should see the samples either Thursday or Friday, depending on how late it is when they pick the samples up. This will be the case for the next two weeks as well.

#### Thanks!



# KUTHER

Laboratory Manager Environmental Professional

#### Office Address:

680 South Progress Avenue, Suite 2A Meridian, Idaho 83642

Office: 208-813-7700

Email: laurie@lrenviro.com













#### CONFIDENTIALITY NOTICE:

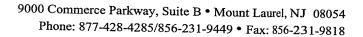
This email is intended only for the personal and confidential use of the individual(s) named as recipient(s) and is covered by the Electronic Communications Privacy Act, 18 U.S.C.2510-2521. It may contain information that is confidential and protected from disclosure under applicable law. If you have received this email in error, please notify the sender and delete this message from your computer. Do not forward, copy or disclose its contents.



# Chain of Custody -Airborne Asbestos –

Contact Inform	ation		
Client Company:	The L&R Group	Project Number:	200050T
Office Address:	680 S. Progress Ave.	Project Name:	Mountain Home AFB
City, State, Zip:	Meridan, ID, 83642	<b>Primary Contact:</b>	Laurie Kuther
Fax Number:		Office Phone:	208.813.7700
Email Address:	laurie@lrenviro.com	Cell Phone:	
Matrix/Method:			
☐ PCM: NIOSI	H 7400		
☐ PCM: OSHA			
☐ TEM: NIOSI			
	A 40 CFR 763		
TEM: ISO 10			,
☐ TEM: ISO 13			
tillet			
Special Instructi	ons:		
Turnaround Tin	<u>ae</u>	grainining	Europed Squoond
Preliminary Results Re	quested Date:Specific date / time	Verba	I   Email   Fax
<b>a</b> 1	0 Day 5 Day 3 Day 2 Day	] 1 Day*	Hour** RUSH**
		•	
* End of next l	ousiness day unless otherwise specified. ** N	Matrix Dependent. ***Please no	otify the lab before shipping***
Chain of Custod	Y		The second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of th
	.e/Organization): L&F/Group	Date: 7/22/2020	Time: 15:30
Received (Name / i	ATL): 1/27/206	loiish Date:	Time:
Sample Login (Nar		***************************************	Time:\
Analysis(Name(s) / QA/QC Review (N		10130AmDate:	Time:
	d: QA/QC InterLAB Use:	Date: Date:	Time:
	and XX 7/28/2	a 6:21AM	A LAND

Celebrating more than 30 years...one sample at a time www.iatl.com





-Airborne Asbestos -

Client:	L&R	Gro	up
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Project: 200050T

Sampling Date/Time: 7/21/2020

Client Sample #	iATL#	Location/ Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results
01	7040574	LR-043	7LPM	1250-0035			
02	7040575	LR-043	7LPM	1257-0042	687min	4800L	
03	7040576	LR-043	7LPM	1301-0046	687min	4800L	
04	7040577	LR-043	7LPM	1306-0051	687min	4800L	
05	<b>704057</b> 8	LR-043	7LPM	1309-0054	687min	4800L	
06	7040579	LR-043	7LPM	1313-0058	687min	4800L	
07	7040580	LR-043	7LPM	1339-0124	687min	4800L	
08	7040581	LR-043	7LPM	1346-0131	687min	4800L	
09	7040582	LR-043	7LPM	1353-0138	687min	4800L	
10	7040583	LR-043	7LPM	1402-0147	687min	4800L	
11	7040584	LR-043	7LPM	1409-0154	687min	4800L	
12	7040585	LR-043	7LPM	1418-0203	687min	4800L	
13	7040586	LR-043	7LPM	1335-0120	687min	4800L	
14	7040587	LR-043	7LPM	1341-0126	687min	4800L	
* = Insufficient Sample	7040588  Provided to Perform QC Reand	: :	7LPM	1341-0134	687min	4800L	

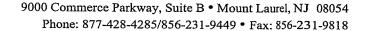
<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



<sup>\*\* =</sup> Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible

FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.





-Airborne Asbestos -

<sub>Client:</sub> L&R Grou	up	
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Project: 200050T

Sampling Date/Time: 7/21/2020

Client Sample #	iATL#	Location/ Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results
01	7040574	LR-043	7LPM	1250-0035	687min	4800L	4935
02	7040575	LR-043	7LPM	1257-0042	687min	4800L	4935
03	7040576	LR-043	7LPM	1301-0046	687min	4800L	4135
04	7040577	LR-043	7LPM	1306-0051	687min	4800L	4935
05	7040578	LR-043	7LPM	1309-0054	687min	4800L	4135
06	7040579	LR-043	7LPM	1313-0058	687min	4800L	4935
07	<b>7</b> 040580	LR-043	7LPM	1339-0124	687min	4800L	4935
08	7040581	LR-043	7LPM	1346-0131	687 70 <i>5</i>	4800L	9935
09	7040582	LR-043	7LPM	1353-0138	687min	4800L	4935
10	7040583	LR-043	7LPM	1402-0147	687min	4800L	4135
11	704:58:	LR-043	7LPM	1409-0154	687min	4800L	4935
12	7040585	LR-043	7LPM	1418-0203	687min	4800L	1935
13	7040583	LR-043	7LPM	1335-0120	687min	4800L	7135
14	7040587	LR-043	7LPM	1341-0126	687min	4800L	1935
15	7040588	LR-043	7LPM	1341-0134	687min	4800L	4991

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

<sup>\*\* =</sup> Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible
FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:		oup - Technical Services		Project:	Mountain Home AFB - Re	*			
-	Meridian ID	nz Way Suite 104		Project No.:	200050T - Batch # 61713	2			
Client No.:	LRG308			Turn-Around Time:		5 Days			
Client Contacts:	<u> </u>		Laborator	y Contacts:					
Contacts:			Contacts:	Frank E. Ehrenfeld III					
Phone:			Phone:	(856) 231-9449					
Fax:			Fax:	(856) 231-9818					
Cell/Pager:			Cell/Pager:	(b) (6)					
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>				
Chain of Custod	l-v-								
Samples Taken in F	•	L&R Group	Date:	7/22/20	Time:				
Samples Rec'd at La		L. D'Ornellas	Date:	7/27/20	Time:	10:15 AM			
Samples Prepped:	Ž	B. Reich	Date:	7/28/20	Time:	6:21 AM			
Samples Analyzed:		M. Stewart	Date:	7/30/20	Time:	11:00 AM			
Preliminary Results	Faxed:		Date:		Time:				
Preliminary Results	E-Mail:		Date:		Time:				
<u> </u>	Summary Data								
		Т		mary Data Electron Microscopy	,				
	IS	O 10312 Ambient Air D				12)			

#### 4,6 Results 5,6 Results Client IATL Volume <sup>1</sup>Primary Asbestos <sup>3</sup>Asbestos Types Identified Asbestos Sample ID # Sample ID # $s/mm^2$ (L) Structures s/cc 7040575R 4809.0 None Detected 0 None Detected < 3.7 < 0.0002932-Rep None Detected 12-Rep 7040585R 4809.0 0 None Detected < 3.7 < 0.000293

	_	
NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2072
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.		
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
structures >5um in length	1	



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	200050T - Batch # 617132
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	5 Days
Client Contacts	:	Laborator	ry Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custoo	ly:			
Samples Taken in I	Field: L&R Group	Date:	7/22/20	Time:
Samples Rec'd at L	aboratory: L. D'Ornellas	Date:	7/27/20	Time: 10:15 AM
Samples Prepped:	B. Reich	Date:	7/28/20	Time: 6:21 AM
Samples Analyzed:	M. Stewart	Date:	7/28/20	Time: 10:30 AM
Preliminary Results	Faxed:	Date:		Time:
Preliminary Results	E-Mail:	Date:		Time:
-		Sum	mary Data	

## Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structures	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc
01	7040574	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
02	7040575	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
03	7040576	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
04	7040577	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
05	7040578	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
06	7040579	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

SD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2071
lusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.		
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
tructures >5μm in length.		



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way Suite 104		Project No.:	200050T - Batch # 617132
	Meridian ID			
Client No.:	LRG308		Turn-Around Time:	5 Days
Client Contacts	:	Laborator	ry Contacts:	
Contacts:		Contacts:	Frank E. Ehrenfeld III	
Phone:		Phone:	(856) 231-9449	
Fax:		Fax:	(856) 231-9818	
Cell/Pager:		Cell/Pager:	(b) (6)	
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
Chain of Custo	dy:			
Samples Taken in	Field: L&R Group	Date:	7/22/20	Time:
Samples Rec'd at I	Laboratory: L. D'Ornellas	Date:	7/27/20	Time: 10:15 AM
Samples Prepped:	B. Reich	Date:	7/28/20	Time: 6:21 AM
Samples Analyzed	: M. Stewart	Date:	7/29/20	Time: 7:20 AM
Preliminary Result	s Faxed:	Date:		Time:
Preliminary Result	s E-Mail:	Date:		Time:
		Sum	mary Data	

### Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structures	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
07	7040580	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
08	7040581	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
09	7040582	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
10	7040583	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7040584	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
12	7040585	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7040586	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2071
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	1	
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
ampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
tructures >5µm in length.		



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client: The L & R Group - Technical Services  1859 S. Topaz Way Suite 104			Project:	Mountain Home AFB			
	Meridian ID		4	Project No.:	200050T - Batch # 617132		
Client No.:	LRG308			Turn-Around Tim	ne:	5 Days	
Client Contacts	s:		Laborator	y Contacts:			
Contacts:			Contacts:	Frank E. Ehrenfeld l	Ш		
Phone:			Phone:	(856) 231-9449			
Fax:			Fax:	(856) 231-9818			
Cell/Pager:			Cell/Pager:	(b) (6)			
E-Mail:			E-Mail:	frankehrenfeld@iatl	.com		
Chain of Custo	dv:						
Samples Taken in		L&R Grou	p Date:	7/22/20	Time:		
Samples Rec'd at 1	Laboratory:	L. D'Ornella	as Date:	7/27/20	Time:	10:15 AM	•
Samples Prepped:		B. Reich	Date:	7/28/20	Time:	6:21 AM	
Samples Analyzed	l:	M. Stewar	t Date:	7/30/20	Time:	7:40 AM	
Preliminary Result	ts Faxed:		Date:		Time:		
Preliminary Result	ts E-Mail:		Date:		Time:		•
			Sum	mary Data			
			Transmission 1	Electron Microsco	ру		
	IS	O 10312, Ambie	nt Air Determination		s, Direct Transfer (ISO 10312	2)	
Client	IATL	Volume	<sup>1</sup> Primary Asbestos	Total	1	4,6 Results	5,6Results
Sample ID #	Sample ID #	(L)	Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	s/mm²	s/cc
14	7040587	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
15	7040588	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA

Sample ID #	Sample ID #	(L)	Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	s/mm²	s/cc
14	7040587	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
15	7040588	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA

SD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #:	2071
usters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	1	
verload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air		
mpled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II, III):	III
ructures >5µm in length.		



IATL Reports Group NG 9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449 Email: customerservice@iatl.com

BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308	Batch Number:	617346
Customer:	The L & R Group - Technical Services 680 South Progress Ave 2A Meridian ID	Project: Project Number: TAT:	Mountain Home AFB 20050T 5 Day
Customer Rep:	Shirley Clark		ĺ
	·	D.4./F: D	08/00/00/00 10 00 13/0
# of Samples:	15 Analysis: TEM - ISO 10312	Date/Time Recd: Date/Time Due:	07/30/2020 10:30 AM 08/06/2020 5:00 PM
•	•		00/00/2020 5:00 1 10
Client Notes:	N/A		***************************************
Lab Technician Note	s: N/A package relation good condition L		
Accounting Notes:	N/A		
Report Processing No	otes: N/A		
		<u> </u>	
Shipping E	rrar.	Analysis Ac	knowledgement
•••	e not received in a sealed container. Bulk samples not double		•
bagged.	e not received in a scaled container. Bulk samples not double	TEM Prep	ACAM CHILD CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CON
	s received open in bagsample integrity compromised, possible	TEM - ISO 103	112
contamination			
Samples rece			
	eived covered with dustpossible cross contamination.		
	ainers damaged, contents spilledpossible cross contamination.		
	lete Chain of Custody Received.		
	lete Sample Log Received.		
	ainer IDs do not match the client's sample log.		
— No Turnarou	nd Time indicated.		
	p for TEM NIOSH 7402. Cassettes previously opened and		
portion of fil			
	submitted as required by the requested analytical method.		
Other M	ipping requirements not attained. See attached Carrier Air Bill.	almostile samples.	
Datab Fana	ipping requirements not attained. See attached Carrier Air Bill.  O FIRID BlanKS Provided, Lab BlanKS prepared	Y	
Batch Erro Wrong Clien		Login Error:	d Imagemently
	it ID Listed —— it Location Listed ——	<ul><li>Sample Log Stampe</li><li>Sample Containers</li></ul>	
	ect ID Listed —	— Duplicate / Extra Sa	
	Around Time Listed	•	•
Wrong Due		Lab Technician Ber	ich Sneet Error
	e / Time Received Listed		
	ysis Method Listed		
	ber of Samples Listed		



# Chain of Custody -Airborne Asbestos –

[ <del></del>			
Contact Informa	ation		
Client Company:	The L&R Group	<b>Project Number:</b>	200050T
Office Address:	680 S. Progress Ave.	Project Name:	Mountain Home AFB
City, State, Zip:	Meridian	<b>Primary Contact:</b>	Laurie Kuther
Fax Number:		Office Phone:	208.813.7700
Email Address:	Laurie@Irenviro.com	Cell Phone:	
Matrix/Method:			
☐ PCM: NIOSI			
PCM: OSHA			
☐ TEM: NIOSI			
	A 40 CFR 763		
TEM: ISO 10	0312		
☐ TEM: ISO 13	3794		
Other			
Special Instructi	ons:		
		***************************************	
Turnaround Tin	no		
Preliminary Results Re		□Verba	al 🗆 Email 🔲 Fax
	Specific date / time		
	10 Day □5 Day □3 Day □2 Day □	1 Day* ☐ 12 Hour** ☐ (	6 Hour** RUSH**
* End of next i	business day unless otherwise specified. ** M	letriy Dependent ***Dlenge n	atify the leb before chinning***
End of next	business day unless onei wise specified.	iautx Dependent. """ Flease II	otry the lab before shipping
Chain of Custod	<b>LY</b>		The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
	ne/Organization): L&R Group	Date: 7/29/2020	Time: 1400
Received (Name /	iATL): エア130/2、01	Oi 10 fr Date:	Time:
Sample Login (Nat		Date:	Time:
Analysis(Name(s)		Date: <u>8/4/20</u>	Time:
QA/QC Review (N		Date:	Time:
Archived / Release	ed:QA/QC InterLAB Use:	Date:	Time:
	- AP 81717A		



-Airborne Asbestos -

Client: L&R Group	Project: 200050T	
Sampling Date/Time: 7/29/2020		

Client Sample #	iATL#	Location/ Description	Flow Rate	<u>Start</u> End	Sampling time (min)	Area (ft2) Volume (L)	Results ( )
01	704231~	LR-043	7LPM	11:06am 10:33pm	687	4800	
02	7042316	LR-043	7LPM	11:13am 10:40pm	687	4800	
03	7042317	LR-043	7LPM	11:18am 10:45pm	687	4800	
04	7042318	LR-043	7LPM	11:20am 10:47pm	687	4800	
05	7042319	LR-043	7LPM	11:22pm 10:49pm	687	4800	
06	7042320	LR-043	7LPM	11:29 am 10:56 pm	687	4800	
07	7042321	LR-043	7LPM	11:54am 11:21pm	687	4800	
08	7043322	LR-043	7LPM	12:00pm 11:27pm	687	4800	
09	7042323	LR-043	7LPM	12:05pm 11:32pm	687	4800	
10	7043334	LR-043	7LPM	12:12pm 11:39pm	687	4800	
11	7042305	LR-043	7LPM	12:17pm 11:44pm	687	4800	
12	7043336	LR-043	7LPM	12:23pm 11:50pm	687	4800	
13	7048327	LR-043	7LPM	11:50am 11:17pm	687	4800	
14	7048328	LR-043	7LPM	12:28pm 11:65pm	687	4800	
15	7043329	LR-043	7LPM	12:40pm 12:04am	687	4800	

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

\*\* = Insufficient Sample Provided to Analyze (<50mg) \*\*\*= Matrix / Substrate Interference Possible FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

4788

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



Client:

#### FINAL RESULTS

#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:					Project:         Mountain Home AFB           Project No.:         20050T - Batch# 617346				
	Meridian ID		<del>)'1</del>	Fioject No.:	200301 - Batch# 017340				
Client No.:	· . · · · · · · · · · · · · · ·								
Client Contact:	3:		Laborator	y Contacts:					
Contacts:			Contacts:	Frank E, Ehrenfel	d III				
Phone:			Phone:	(856) 231-9449					
Fax:	<u></u>		Fax;	(856) 231-9818					
Cell/Pager:			Cell/Pager:	(b) (6)					
E-Mail:			E-Mail:	frankehrenfeld@i	ati.com				
				<u> </u>					
Chain of Custo						<del> </del>			
Samples Taken in			Date:		Time:		•		
Samples Ree'd at 1		L. D'Ornell		7/30/20	Time:				
Samples Prepped:		B. Reich		8/3/20	Time;	<u> </u>	•		
Samples Analyzed		M. Stewa	rt Date:	8/4/20	Time:				
Preliminary Result	ts Faxed:		Date:		Time;				
Preliminary Result			Date:		Time:		•		
			Sum	mary Data					
				Electron Micros					
	IS	O 10312, Ambi	ent Air Determination		res, Direct Transfer (ISO 10312				
Client	IATL	Volume	<sup>1</sup> Primary Asbestos	lotal	*	4,6 Results	5,6 Results		
Sample ID#	Sample ID#	(L)	Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	s/mm²	s/cc		
01	7042315	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
02	7042316	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
03	7042317	4809.0	<u> </u>	ı	Chrysotile	3.7	0.000293		
04	7042318	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
05	7042319	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
06	7042320	4809.0	None Detected	0	None Detected	< 3.7	0.000293		
07	7042321	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
08	7042322	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
09	7042323	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293		
·····									
					cludes component fibers of primary	Grid Box #:	2077		
verload criteria is >2	5%. 4 - Total Asbesto	s Structures in relatio	on to area analyzed. 5 - Total A	sbestos Structures of a	ifications of structures identified. all sizes as a function of the volume of air				
ımpled, 6 - Fora dit nuctures >5µm in len		juivalent "libers" ver	sus AHERA-countable *structur	es", reler to each sam	pie's Summary Page, 7 - For all	Instrument (I, II, I	II): <u>III</u>		
						,			
					**************************************	Just all	9/2020		
					,	J 4 7 1 1 1	1		



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Tech	nical Services		Project:	Mountain Home AFB
	1859 S. Topaz Way S	uite 104		Project No.:	20050T - Batch# 617346
	Meridian ID				
Client No.:	LRG308			Turn-Around Time:	5 Days
Client Contacts:			Laborator	y Contacts:	
Contacts:			Contacts:	Frank E. Ehrenfeld III	
Phone:			Phone:	(856) 231-9449	
Fax:			Fax:	(856) 231-9818	
Cell/Pager:			Cell/Pager:	(b) (6)	
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>m</u>
Chain of Custod	ly:				
Samples Taken in F	ield:		Date:		Time:
Samples Rec'd at La	aboratory: L. D	'Ornellas	Date:	7/30/20	Time:
Samples Prepped:	В	. Reich	Date:	8/3/20	Time:
Samples Analyzed:	M.	Stewart	Date:	8/5/20	Time:
Preliminary Results	Faxed:		Date:		Time:
Preliminary Results	E-Mail:		Date:		Time:
I .			Sum	mary Data	

## Transmission Electron Microscopy

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

150 10512, Ambient Am — Determination of Asbestos Profes, Direct Hauster (150 10512)							
Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structuros	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	<sup>5,6</sup> Results s/cc
10	7042324	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7042325	4809.0	None Detected	None Detected 0		< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary	Grid Box #
clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.	Grid Boil ii
Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air	
sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all	Instrument (I, II,
structures >5µm in length.	

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

2077

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#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R	Group - Technical Services		Project:	Mountain Home AFB
	1859 S. T	opaz Way Suite 104		Project No.:	20050T - Batch# 617346
	Meridian	ID			
Client No.:	LRG308			Turn-Around Time:	5 Days
Client Contacts:	•		Laborator	y Contacts:	
Contacts:			Contacts:	Frank E. Ehrenfeld III	
Phone:		_	Phone:	(856) 231-9449	
Fax:			Fax:	(856) 231-9818	
Cell/Pager:		_	Cell/Pager:	(b) (6)	
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>
[					
Chain of Custod	lure				
Charle of Caston	ıy:				
Samples Taken in F			Date:		Time:
l <del></del>	Field:	L. D'Ornellas	Date:	7/30/20	Time:
Samples Taken in F	Field:	L. D'Ornellas B. Reich		7/30/20 8/3/20	<del></del>
Samples Taken in F Samples Rec'd at L	Field: aboratory:		Date:		Time:
Samples Taken in F Samples Rec'd at L Samples Prepped:	Field: aboratory:	B. Reich	Date:	8/3/20	Time:
Samples Taken in F Samples Rec'd at L Samples Prepped: Samples Analyzed:	Field: aboratory: Faxed:	B. Reich	Date: Date: Date:	8/3/20	Time: Time: Time:
Samples Taken in F Samples Rec'd at L Samples Prepped: Samples Analyzed: Preliminary Results	Field: aboratory: Faxed:	B. Reich	Date: Date: Date: Date: Date: Date:	8/3/20 8/6/20	Time: Time: Time: Time:
Samples Taken in F Samples Rec'd at L Samples Prepped: Samples Analyzed: Preliminary Results	Field: aboratory: Faxed:	B. Reich M. Stewart	Date: Date: Date: Date: Date: Date: Sum	8/3/20	Time: Time: Time: Time: Time:

Client Sample ID #	IATL Sample ID #	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Total Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6Results s/cc
12	7042326	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7042327	4809.0	None Detected	None Detected 0 None Det		< 3.7	< 0.000293
14	7042328	4809.0	None Detected	None Detected 0 None Detected		< 3.7	< 0.000293
15	7042329	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary Grid Box #: clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified. Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air Instrument (I, II, III): sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all structures >5µm in length.

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#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group -	Technical Services		Project:	Mountain Home AFB
_	1859 S. Topaz Wa	y Suite 104		Project No.:	20050T - Batch# 617346
	Meridian ID				
Client No.:	LRG308			Turn-Around Time:	5 Days
Client Contacts:			Laborator	y Contacts:	
Contacts:			Contacts:	Frank E. Ehrenfeld III	
Phone:			Phone:	(856) 231-9449	
Fax:			Fax:	(856) 231-9818	
Cell/Pager:			Cell/Pager:	(b) (6)	
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	o <u>m</u>
Chain of Custod	lv:				
Samples Taken in F	· <del>**··································</del>		Date:		Time:
Samples Rec'd at La	aboratory:	L. D'Ornellas	Date:	7/30/20	Time:
Samples Prepped:		B. Reich	Date:	8/3/20	Time:
Samples Analyzed:		M. Stewart	Date:	8/6/20	Time:
Preliminary Results	Faxed:		Date:		Time:
Preliminary Results	E-Mail:		Date:		Time:
<u>L</u>					

# Summary Data Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID#	IATL Sample ID#	Volume (L)	Primary Asbestos Structures	Asbestos	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc
1	7042315-REP	4809.0	None Detected	Ctrusturac 0	None Detected	< 3.7	< 0.000293
12	7042326-REP	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
		***************************************					
		***************************************					
***************************************							
		***************************************					

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25% 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all structures >5µm in length.

Grid Box #: 2071

Instrument (I, II, III): III



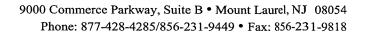
Wrong Number of Samples Listed

9000 Commerce Parkway Suite B Mt. Laurel, New Jersey 08054 Telephone: 8562319449

Email: customerservice@iatl.com

# BATCH / SAMPLE MANAGEMENT REPORT

Customer No:	LRG308			Ba	atch Number:	617671
Customer:	The L & R Gro 680 South Prog Meridian ID	oup - Technical Ser- gress Ave 2A	vices	Pr	roject: roject Number: AT:	Mountain Home AFB 200050T 5 Day
Customer Rep:	Shirley Clark					July
# of Samples:	15	Analysis:	TEM - ISO 10312		ate/Time Recd: ate/Time Due:	08/06/2020 8:33 AM 08/13/2020 5:00 PM
Client Notes:	N/A	***************************************	B-12-17-17-17-17-17-17-17-17-17-17-17-17-17-	<del>V7.0 min. m.s. sauces, s. s. s</del>		
Lab Technician Note	es: N/A					
Accounting Notes:	N/A					
Report Processing N	otes: N/A					
				······································		
bagged. Air Cassette contaminatio Samples reco Sample cont Paperwork re No / Incomp No / Incomp Sample conte No Turnarou	re not received in some received open is contracted wet. Evived covered with ainers damaged, eceived in the sample to grainer IDs do not and Time indicated	th dustpossible crecontents spilledpc ne bag as samples pstody Received. Received. match the client's said.	ossible cross contamination.  possible contamination.  ample log.		Analysis Acl TEM Prep TEM - ISO 103	
portion of fil Blank (s) not Minimum sh Other:   Batch Erro Wrong Clien Wrong Proj Wrong Turn Wrong Due I Wrong Date	ter removed.  It submitted as reciping requirement  OF:  It ID Listed  It Location Listed  Around Time Lis	uired by the request this not attained. Se NCS frovided,	previously opened and sted analytical method. see attached Carrier Air Bill. Lab Blank's prepared all	1095ide 5 Lo —— Sai —— Sai —— Du	ogin Error: mple Log Stamped mple Containers M	fislabeled nples Not Stamped





# **Chain of Custody**

-Airborne Asbestos -

	Amborne A	.5005105				
Contact Informa	ation					
Client Company:		Project Number:	200050T			
Office Address:	680 S. Progress Ave.	Project Name:	Mountain Home AFB			
City, State, Zip:		Primary Contact:	Laurie Kuther			
Fax Number:		Office Phone:	208.813.7700			
Email Address:	Laurie@Irenviro.com	Cell Phone:	***************************************			
Matrix/Method:						
☐ PCM: NIOSI						
☐ PCM: OSHA						
☐ TEM: NIOSI						
	AA 40 CFR 763					
TEM: ISO 10						
TEM: ISO 13						
L Other						
Special Instructi	ions:					
Special filstructi	ons:					
**************************************						
***************************************						
Turnaround Tin	me					
	equested Date:Specific date / time	Verba	al 🗆 Email 🔲 Fax			
	Specific date / time  10 Day		CII. 44 DIIOII44			
1 <b></b>	To Day Lis Day Lis Day Lis Day Lis Day	ay" L.12 Hour" L.1	6 Hour** LI KUSH**			
* End of next	business day unless otherwise specified. ** Matrix	Dependent. ***Please n	notify the lab before shipping***			
Chain of Custod	**************************************		en en en en en en en en en en en en en e			
	re/Organization): L&R Group	Date: 8/05/2020	Time: 1400			
Received (Name /	/	Date:	Time:			
Sample Login (Nai	· · · · · · · · · · · · · · · · · · ·		Time:			
Analysis(Name(s)		Date: <u>X/7/20</u>	Time:			
QA/QC Review (N		Date:	Time: AUG - 6 2020			
Archived / Release	d:QA/QC InterLAB Use:	Date:	Time:			
	area Bol SILIZA		7			



-Airborne Asbestos -

Client: L&R Group	Project: 200050T
Sampling Date/Time: 8/5/2020	

Client Sample#	iATL#	Location/ Description	Flow Rate	<u>Start</u> End	Sampling time (min)	Area (ft2) Volume (L)	Results ( )
01	7045849	LR-043	7LPM	10:35 am 10:02 pm	687	4800	
02	7045850	LR-043	7LPM	10:44am	687	4800	
03	7045851	LR-043	7LPM	10:49am 10:16pm	687	4800	
04	7045852	LR-043	7LPM	10:53am 10:20pm	687	4800	
05	7045853	LR-043	7LPM	10:59 am 10:24pm	687	4800	
06	7045854	LR-043	7LPM	11:06 am 10:33pm	687	4800	
07	7045859	LR-043	7LPM	11:34am 11:01pm	687	4800	
08	7045856	LR-043	7LPM	11:17pm	687	4800	
09	7045857	LR-043	7LPM	11:57am 11:24pm	687	4800	
10	7045858	LR-043	7LPM	11.2.15.1	687	4800	
11	704F0##	LR-043	7LPM	12:17pm 11:44pm	687	4800	
12	70458 <b>59</b> 70458 <b>6</b> 0	LR-043	7LPM	12:24pm 11:53pm	687	4800	
13	7045861	LR-043	7LPM	11:30gm 10:57pm	687	4800	
14	7045862	LR-043	7LPM	12:25pm 11:52pm	687	4800	
15	7045863	LR-043	7LPM	12:32pm 11:59pm	687	4800	

<sup>\* =</sup> Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

\*\* = Insufficient Sample Provided to Analyze (<50mg) \*\*\* = Matrix / Substrate Interference Possible

FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L &	R Group - Technical Services		Project:	Mountain Home AFB			
_	1859 S.	Topaz Way Suite 104		Project No.:	20050T - Batch# 617671			
_	Meridian	ID						
Client No.:	LRG308			Turn-Around Time:	5 Days			
Client Contacts:			Laborator	y Contacts:				
Contacts:			Contacts:	Frank E. Ehrenfeld III				
Phone:			Phone:	(856) 231-9449				
Fax:			Fax:	(856) 231-9818				
Cell/Pager:			Cell/Pager:	(b) (6)				
E-Mail:			E-Mail:	frankehrenfeld@iatl.co	<u>om</u>			
Chain of Custod	ly:							
Samples Taken in F	ield:		Date:		Time:			
Samples Rec'd at La	aboratory:	L. D'Ornellas	Date:	8/6/20	Time:			
Samples Prepped:		B. Reich	Date:	8/6/20	Time:			
Samples Analyzed:		M. Stewart	Date:	8/7/20	Time:			
Preliminary Results	Faxed:		Date:		Time:			
Preliminary Results	E-Mail:		Date:		Time:			

# Summary Data Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID#	IATL Sample ID#	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structuros	<sup>3</sup> Asbestos Types Identified	4,6 Results s/mm <sup>2</sup>	5,6 Results s/cc
1	7045849	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
2	7045850	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
3	7045851	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
4	7045852	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
5	7045853	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
6	7045854	4809.0	None Detected	0	None Detected	< 3.7	0.000293
7	7045855	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
8	7045856	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25% 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all structures >5µm in length.

Grid Box #: 2077

Instrument (I, II, III): III



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Tech	nical Services		Project:	Mountain Home AFB	
_	1859 S. Topaz Way S	uite 104		Project No.:	20050T - Batch# 617671	
	Meridian ID			•		
Client No.:	LRG308			Turn-Around Time:		5 Days
Client Contacts:		La	borator	y Contacts:		
Contacts:		Cor	ntacts:	Frank E. Ehrenfeld III		
Phone:		Pho	ne:	(856) 231-9449		
Fax:		Fax	:	(856) 231-9818		
Cell/Pager:		Cel	l/Pager:	(b) (6)		
E-Mail:		E-N	/Iail:	frankehrenfeld@iatl.co	<u>m</u>	
Chain of Custod						
Samples Taken in F	· <del>·</del> /	Da	ite:		Time:	
Samples Rec'd at La		D'Ornellas Da		8/6/20	. Time:	
Samples Prepped:	В	Reich Da	ite:	8/6/20	Time:	•
Samples Analyzed:	M.	Stewart Da	ite:	8/8/20	Time:	
Preliminary Results	Faxed:	Da	ite:		Time:	
Preliminary Results	E-Mail:	Da	ite:		Time:	
L			Sum	mary Data	<u> </u>	

## Summary Data Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client Sample ID#	IATL Sample ID#	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos Structuros	<sup>3</sup> Asbestos Types Identified	4,6Results s/mm²	5,6 Results s/cc
9	7045857	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
10	7045858	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7045859	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
12	7045860	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
13	7045861	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
14	7045862	4809.0	None Detected	0	None Detected	< 3.7	0.000293
15	7045863	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all Instrument structures >5µm in length.

Grid Box #: 2077

Instrument (I, II, III):



#### Airborne Asbestos Analysis

ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

Client:	The L & R Group - Technical Services		Project:	Mountain Home AFB					
	1859 S. Topaz Way Suite 104		Project No.:	20050T - Batch# 617671					
	Meridian ID								
Client No.:	LRG308	•	Turn-Around Time:		5 Days				
Client Contacts	<u> </u>	Laborato	ory Contacts:						
Contacts:		Contacts:	Frank E. Ehrenfeld III						
Phone:		Phone:	(856) 231-9449						
Fax:		Fax:	(856) 231-9818						
Cell/Pager:		Cell/Pager:	Cell/Pager: (b) (6)						
E-Mail:		E-Mail:	frankehrenfeld@iatl.co	<u>om</u>					
Chain of Custoo	- <del></del>	***************************************							
Samples Taken in I	Field:	Date:		Time:					
Samples Rec'd at L	aboratory: L. D'Ornellas	Date:	8/6/20	Time:					
Samples Prepped:	B. Reich	Date:	8/6/20	Time:					
Samples Analyzed:	M. Stewart	Date:	8/11/20	Time:					
Preliminary Results	Faxed:	Date:		Time:					
Preliminary Results	E-Mail:	Date:		Time:	M-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1				
	Summary Data								

### Transmission Electron Microscopy

#### ISO 10312, Ambient Air -- Determination of Asbestos Fibres, Direct Transfer (ISO 10312)

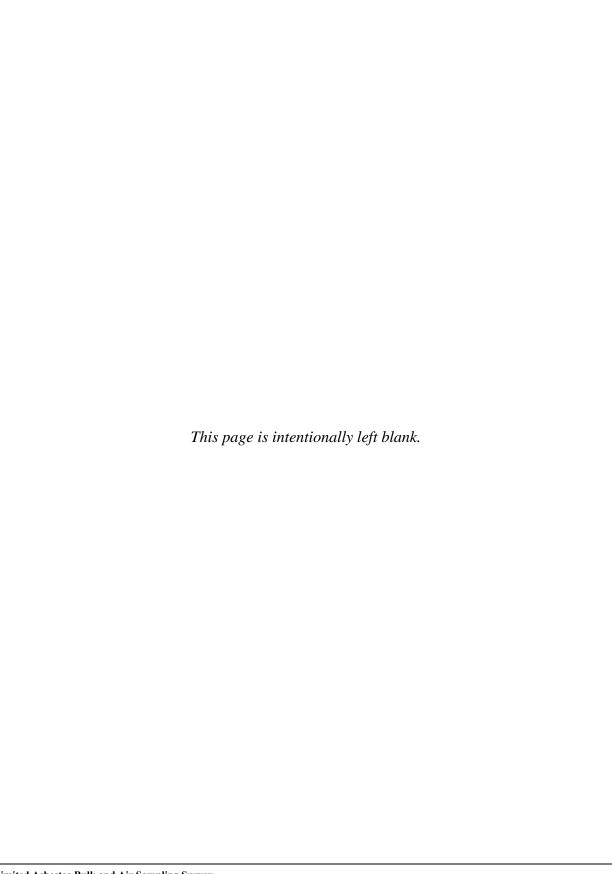
Client Sample ID#	IATL Sample ID#	Volume (L)	<sup>1</sup> Primary Asbestos Structures	Asbestos 3 Asbestos Types Identified  Structures		4,6 Results s/mm²	<sup>5,6</sup> Results s/cc
I	7045849-rep	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
11	7045859-rep	4809.0	None Detected	0	None Detected	< 3.7	< 0.000293
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA
LB	LB	0.0	None Detected	0	None Detected	< 7.7	NA

NSD = No Structures Detected 1 - Primary Structures: Fibers, bundles, clusters and matrices 2 - Total Structures: Includes component fibers of primary clusters and matrices 3 - Includes EPA-regulated asbestos and Libby Amphibole. Refer to raw data for analytical classifications of structures identified.

Overload criteria is >25%. 4 - Total Asbestos Structures in relation to area analyzed. 5 - Total Asbestos Structures of all sizes as a function of the volume of air sampled. 6 - For a differentiation of PCM-equivalent "fibers" versus AHERA-countable "structures", refer to each sample's Summary Page. 7 - For all Instrument (I, II, I structures >5 \( \mu\) m in length.

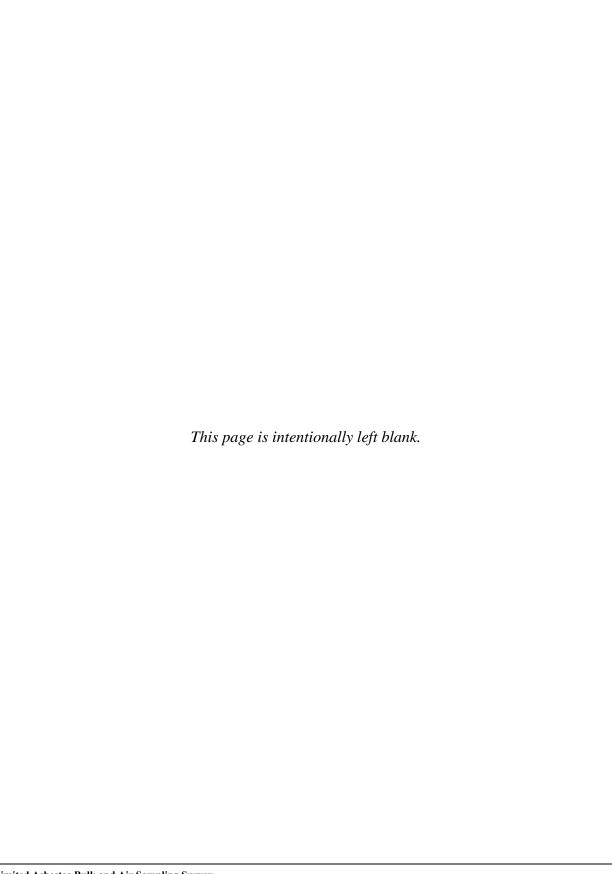
Grid Box #: 2077

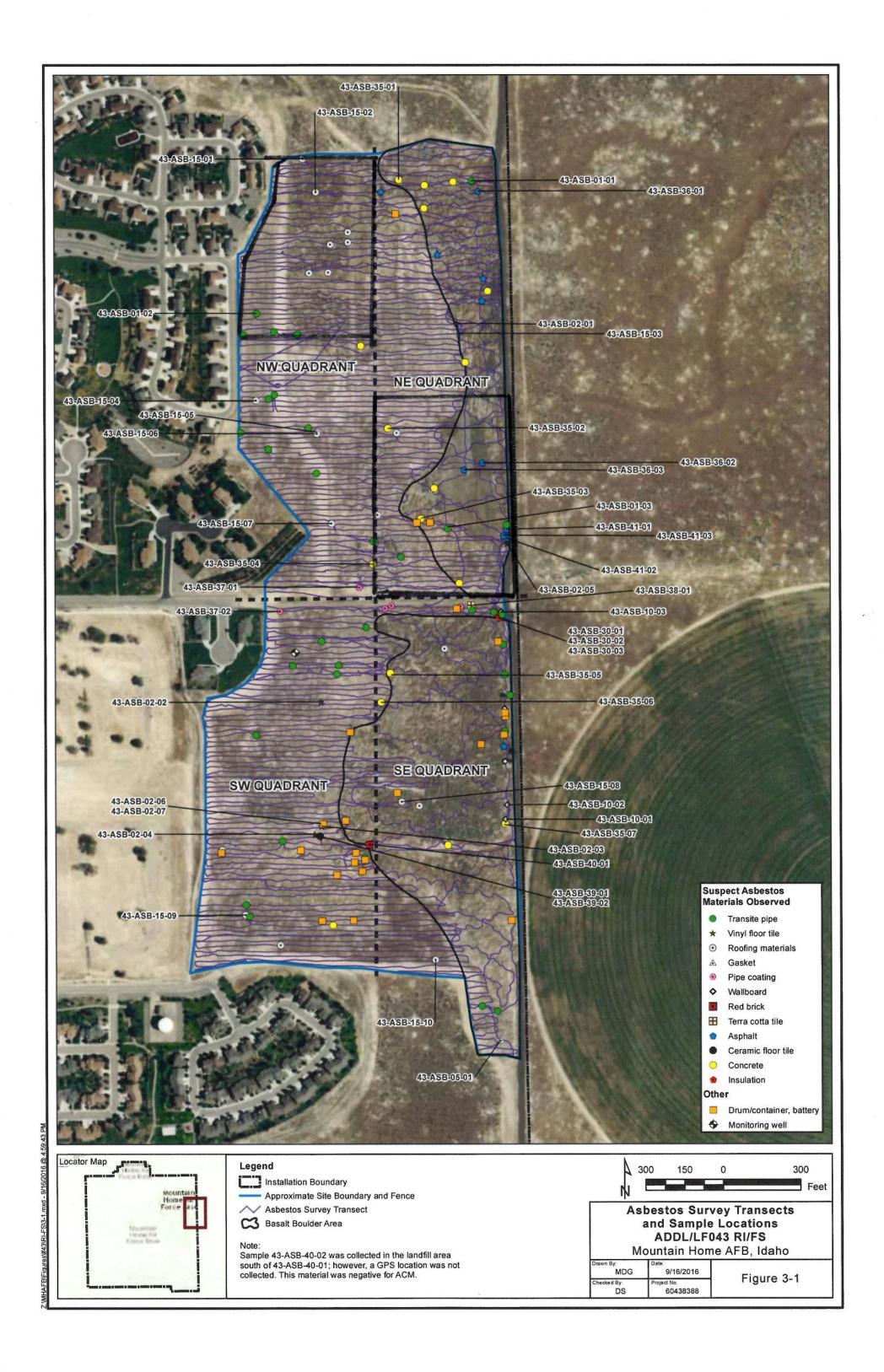
Instrument (I, II, III): III

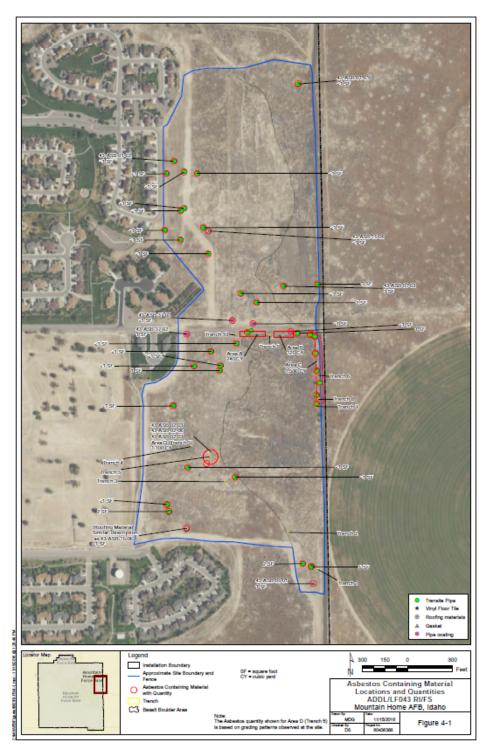




### Appendix I: Figure 3-1, Figure 4-1, and Table 4-1 AECOM 2017 RI/FS







#### TABLE 4-1 SUMMARY OF BULK SAMPLE ANALYSIS LF043, MOUNTAIN HOME AFB, IDAHO

	LF045, MOUNTAIN HOME AFB, IDAHO										
Building Material Number	Building Material Type	Sample Identification	Building Material Description	Building Material Condition	Sample Date	Sample Location - Landfill Quadrant	Analytical Results	OSHA Classification	NESHAP Category	Total Estimated ACM Volume <sup>1</sup> (CY)	Duplicate Samples
1	Transite Pipe	43-ASB-01-01	Grey	Good	5/23/2016	NE	15% Chrysotile, 5% Crocidolite	Class II	II (non-friable)		
		43-ASB-01-02	Grey	Good	5/23/2016	NW	15% Chrysotile, 5% Crocidolite	Class II	II (non-friable)	~ 2,000²	
		43-ASB-01-03	Grey	Good	5/24/2016	NE	15% Chrysotile, 4% Crocidolite	Class II	II (non-friable)		
2	Vinyl Floor Tile	43-ASB-02-01	Black/grey tile or sheeting with black mastic	Poor	5/23/2016	NE	ND	NA	NA	NA	
		43-ASB-02-02	Grey	Good	5/24/2016	sw	ND	NA	NA	NA	
		43-ASB-02-03	Brown	Good	5/25/2016	SW	2% Chrysotile	Class II	I (non-friable)	550 <sup>3</sup>	43-ASB-02-03D
		43-ASB-02-04	Grey	Good	5/25/2016	sw	ND	NA	NA	NA	
		43-ASB-02-05	White	Good	5/26/2016	NE	ND	NA	NA	NA	
		43-ASB-02-06	Brown	Good	6/21/2016	SW	2% Chrysotile	Class II	(non-friable)	550 <sup>3</sup>	
		43-ASB-02-07	Blue	Good	6/21/2016	SW	2% Chrysotile	Class II	I (non-friable)	550 <sup>3</sup>	
5	Gasket	43-ASB-05-01	Grey	Poor	5/25/2016	SE	15% Chrysotile	Class II	I (non-friable)	< 1	
10	Wallboard	43-ASB-10-01	Off-white	Poor	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-10-02	Off-white	Poor	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-10-03	Off-white	Poor	5/26/2016	SE	ND	NA	NA	NA	
15	Roofing	43-ASB-15-01	Brown felt	Poor	5/23/2016	NW	ND	NA	NA	NA	
		43-ASB-15-02	Brown felt	Poor	5/23/2016	NW	ND	NA	NA	NA	
		43-ASB-15-03	Green/black shingle	Poor	5/23/2016	NE	ND	NA	NA	NA	
		43-ASB-15-04	Green, poor condition	Poor	5/24/2016	NW	ND	NA	NA	NA	
		43-ASB-15-05	Dark red	Poor	5/24/2016	NW	ND	NA	NA	NA	
		43-ASB-15-06	White with tiny red dots	Good	5/24/2016	NW	10% Chrysotile	Class II	I (non-friable)	<1	
		43-ASB-15-07	Black with tar, mastic and felt	Good	5/24/2016	NW	ND	NA	NA	NA	
		43-ASB-15-08	Black Flooring	Good	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-15-09	Black felt	Good	5/25/2016	sw	ND	NA	NA	NA	
		43-ASB-15-10	Black felt/shingle	Good	5/25/2016	SE	ND	NA	NA	NA	
30	Insulation	43-ASB-30-01	Grey, within cabinets	Poor	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-30-02	Grey, within cabinets	Poor	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-30-03	Grey, within cabinets	Poor	5/26/2016	SE	ND	NA	NA	NA	

#### TABLE 4-1 SUMMARY OF BULK SAMPLE ANALYSIS LF043, MOUNTAIN HOME AFB, IDAHO

Building Material Number	Building Material Type	Sample Identification	Building Material Description	Building Material Condition	Sample Date	Sample Location - Landfill Quadrant	Analytical Results	OSHA Classification	NESHAP Category	Total Estimated ACM Volume <sup>1</sup> (CY)	Duplicate Samples
35	Concrete	43-ASB-35-01	Grey	Good	5/23/2016	NE	ND	NA	NA	NA	
		43-ASB-35-02	Grey patio step section	Good	5/24/2016	NE	ND	NA	NA	NA	43-ASB-35-02D
		43-ASB-35-03	Grey 8* piping	Good	5/24/2016	NE	ND	NA	NA	NA	
		43-ASB-35-04	Grey piping pieces	Good	5/24/2016	NW	ND	NA	NA	NA	
		43-ASB-35-05	12" grey/red piping	Good	5/24/2016	SE	ND	NA	NA	NA	
		43-ASB-35-06	White roofing shingle with red rocks	Good	5/24/2016	SE	ND	NA	NA	NA	
		43-ASB-35-07	Grey	Good	5/25/2016	SE	ND	NA	NA	NA	43-ASB-35-07D
36	Asphalt	43-ASB-36-01	Black	Poor	5/23/2016	NE	ND	NA	NA	NA	
		43-ASB-36-02	Black with rocks	Poor	5/24/2016	NE	ND	NA	NA	NA	
		43-ASB-36-03	Grey with rocks	Poor	5/24/2016	NE	ND	NA	NA	NA	
37	Pipe Coating	43-ASB-37-01	Black	Poor	5/24/2016	NW	15% Chrysotile	Class II	II (non-friable)	<1	43-ASB-37-01D
		43-ASB-37-02	Black	Poor	5/24/2016	SW	15% Chrysotile	Class II	II (non-friable)	~1	
38	Terra Cotta Tile	43-ASB-38-01	Red	Good	5/24/2016	SE	ND	NA	NA	NA	
39	Ceramic Tile	43-ASB-39-01	Pink	Good	5/25/2016	sw	ND	NA	NA	NA	
		43-ASB-39-02	Light brown dark brown spots	Good	5/25/2016	SW	ND	NA	NA	NA	
40	Brick	43-ASB-40-01	Red	Good	5/25/2016	SE	ND	NA	NA	NA	
		43-ASB-40-02	Brownish	Good	5/25/2016	sw	ND	NA	NA	NA	
41	Asphalt Coating	43-ASB-41-01	Brown	Poor	5/26/2016	NE	ND	NA	NA	NA	
		43-ASB-41-02	Brown	Poor	5/26/2016	NE	ND	NA	NA	NA	
		43-ASB-41-03	Brown	Poor	5/26/2016	NE	ND	NA	NA	NA	

All samples were analyzed using USEPA Methods 600/M4-82-020 and 600/R-93-116.

Shading and Bolded values indicate materials confirmed through sampling to be ACM.

<=less than

% = percent " = inch

ACM = Asbestos containing material

AFB = Air Force Base

CY = cubic yards

NA = Not applicable. Material is not asbestos.

ND = non detect

NE = Northeast quadrant of landfill

NESHAP = National Emission Standards for Hazardous Air Pollutants

NW = Northwest quadrant of landfill

OSHA = Occupational Safety and Health Administration

SE = Southeast quadrant of landfill

SW = Southwest quadrant of landfill

USEPA = United States Environmental Protection Agency

Quantities listed are only for materials confirmed through sampling to be ACM. In addition to the quantity observed at the sample location, the quantity shown includes all similar materials observed. throughout the landfill and shown on Figure 4-1 (and surrounding soil)

<sup>&</sup>lt;sup>2</sup> For all transite locations other than Areas A through D shown on Figure 4-1 (a total of approximately 42 square feet observed), it was conservatively assumed based on trench observations that ACM extends to an average depth of 3 feet.

<sup>3</sup> Quantity shown is based on the depth of the tile observed in Trench 5 (Area D on Figure 4-1) and grading patterns observed at the site. Total estimated quantity is divided equally between the blue and the brown floor tile. Brown floor tile represented by 43-ASB-02-03 is assumed to be the same as that represented by sample 43-ASB-02-06 based on sample description, location, and result.